Andrzej Krzanowski

ARCHAEOLOGICAL INVESTIGATIONS IN THE UPPER HUAURA BASIN (CENTRAL PERU)*

The Huaura is one of the Peruvian rivers flowing down from the west slopes of the Andes into the Pacific Ocean. The river is 120 km long. It originates from the mountain glaciers, over 5000 m a.s.l., in the main Andes ridge, called in those parts the Cordillera Huayhuash, with summits often exceeding 6000 m. The morphology of the area where the archeological investigations took place is varied. Its surface extends at 2300 m to over 5000 m a.s.l. The rivers in their upper run (over 4000 m a.s.l.) flow along U-shaped valleys of glacier origin, with flat bottoms and nearly perpendicular slants. In their lower course intense erosion made those valleys into V-shaped ones. The difference of altitude between the dale bottom and the nearby summits often amounts to 2000 m. The ridges and summits arc narrow, rocky, with precipitous slopes. A characteristic feature of the landscape consists in large screes and taluses.

The climate changes with the altitude. In the uppermost areas, over 4000 m a.s.l., the climate is conspicuously cold, in the region of the lofty glacier summits it becomes typically Alpine. Night and day temperatures differ to a very large extent, and frequently drop below 0°C, especially at night. There are distinctly two seasons: the rainy season from October till April, and the dry season from May till September. During the rainy season it not only rains, frequently it snows and it hails. The dry season is almost completely rainless. The only vegetation in those almost uninhabited regions is grass, moss, and some small species of cactuses. The best part of the contemporary habitat is located between 4000 m down to 2300 m a.s.l., which is the limit of barren desert mountains. The region 4000–2300 m has a moderate climate with regular rainfalls. The vegetation is richer, numerous xerophytes occur, shrubs and small coppices of eucalypti, brought there after the Conquest.

---

* Source: Andrzej Krzanowski, Archaeological investigations in the upper Huaura basin (Central Peru), *Acta Archaeologica Carpathica*, vol. XVII/1977: 121–138 (Part I), vol. XVIII/1978: 201–226 (Part II). Reedition corrected of two parts together.

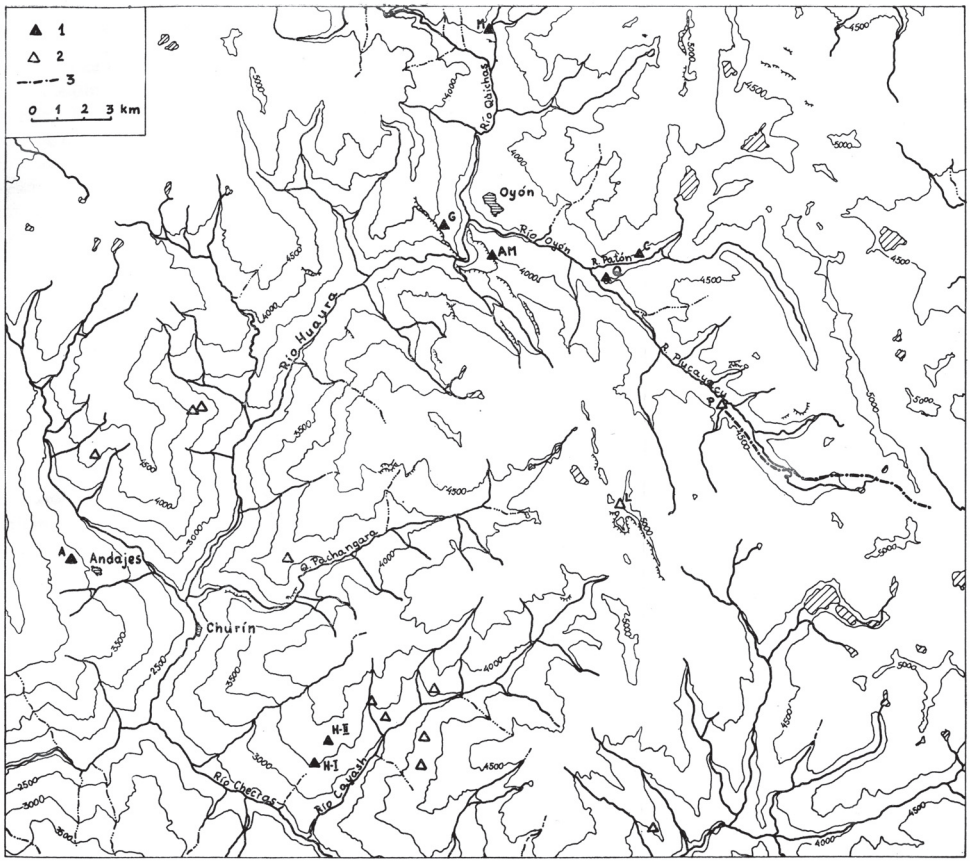

Fig. 1. Archaeological map of the upper Huaura basin. 1 − sites described in the paper; 2 − other sites, 3 − pre-Spanish road. Marks for the sites: L − Limpio; P – Pucayacu; CM − Campana Machay; AM − Altar Machay; Q − Quillahuaca; G − Golgue; M − Marca Marca; H-I − Huacho Sin Pescado I; H-II − Huacho Sin Pescado II; A − Andajes

The landmarks of the area under investigation are two towns in the Huaura valley – Churin in its lower and Quichas in its upper course. As far as administration is concerned, the region in question is situated in the department of Lima, the province of Cajatambo, and in the districts of Oyón, Andajes and Pachangara (Fig. 1). I carried out my archaeological investigations – surface investigations only– in those parts on the turn of 1972. Exhaustive charting was effected almost of the whole basin of the river Oyón, where seven archaeological sites (settlements) were recorded as well as a stretch of a pre-Spanish road. Moreover, I investigated sites situated further down, one in the vicinity of Andajes and two other near Huacho Sin Pescado. In most sites I collected ceramics and other monuments.[1] In some cases I worked cut detailed

[1] The collected materials were deposited in the stores of the Seminario Arqueológico del Instituto Riva-Agüero in Lima.

plants of the whole or of a part of the given site, using the method of direct survey and of incisions, a tape measure and a compass within inclinometer. This method, though permitting to speed work, could however cause some mistakes or inexactitudes. Unfortunately, my lack of time and my limited means afforded no possibility of strict geodetic measurements. In consequence, plans published here should be considered rather fairly accurate location designs; however, they may prove useful in the initial stages of archeological investigation. Until now, archaeological researches were never done neither in the upper Huaura basin, nor in any other part of the Cordillera Huayhuash. However, some of the sites in question were registered, but, as far as I know, they were by no means explored. C. García Rosell (1968: 16) refers to a University Committee acting in those parts in 1958. While staying in Peru I found at the Lima University nothing to confirm that piece of information. García Rosell (1968: 16, 85, 267) specifies but two sites – Quichas and Chanquillas. With regard to the former, he writes about ruins situated 7 km east of Oyón, which was not confirmed by field investigation. I suppose that Quichas should be identified with the Marca Marca ruins, in neighborhood of the hacienda of Quichas and 7 km from Oyón, but to the north. In all probability, the ruins, mentioned by the well-known XIXth century naturalist A. Raimondi (1945: 224), who visited those parts in 1861, are the Marca Marca ruins. About Chanquillas García Rosell writes shortly that the site consists of ruins situated on the left bank of the Oyón river, opposite to the fundo Chanquillas. It never occurred to me to meet that name, and taking in consideration that in the past the river Oyón was no more than a 50 km long part of the Huaura, from its source to the mouth of its tributary the Checras, information on the site in question is too ambiguous to permit its localization.

A. Cardich (1958: 30) also mentions ruins of pre-Spanish settlements in the Oyón region, however, giving no details. P. Villar Córdova in his ample archaeological monography of the department of Lima is very uncommunicative, as far as the upper Huaura basin is concerned. He specifies but the Antakocha ruins, situated according to the relevant map, in the neighborhood of the little town of Andajes (Villar Córdova 1935: 334, 337).

I should like to mention the relatively numerous papers and booklets aiming at tourism intensification in that region. Those publications frequently speak of magnificent ruins. Unhappily the information is misleading – the authors, not very keen on reliable data, transport to the Huaura basin ruins from quite other parts.[2] However, exception should be made in favor of the small size book by San Martin (1970), who enumerates real ruins in the regions of Huacho Sin Pescado, Curay and Andajes. He also names there sites situated near Andajes, namely Ninash, Cucún and Antashuay. I suppose that Ninash is the site situated 4 km north of Andajes, on a summit of the

[2] Let us mention e.g. M. Roncagliolo's text *(*En Oyón, Churín, Andajes. Un tesoro Arqueológico casi desconocido), published in the Lima newspaper *Expresso* (14 XI 1972, pp. 6–7). The author enumerates numerous ruins in the vicinity of Oyón and Andajes, which in fact are situated in the nearby Chancay valley. Moreover the denominations often are misspelt.

same name. I also supposed that Antashuay is the site I explored near the town.[3] According to San Martin's opinion, in the vicinity of Andajes still exists an Inca irrigation canal 11 km long.

The physical map of the region (scale 1:100 000) gives reliable information and specifies some extant ruins.[4] That map enabled me to localize four sites, in strict accordance with the map data.

The literature relevant to the region under investigation is scarce and some ruins excepted, provides no information about anything. This it happens that this paper is the first outline of archaeology of the upper Huaura basin, and the west slopes of the Cordillera Huayhuash.

The analysis of the collected materials proves that the investigated sites belong to various archeological periods. The preceramic sites of Pucayacu and Limpio, both situated in the Oyón basin, are the oldest; from those sites comes my collection of several dozen points; they will be described in a special paper to be published in near future, and therefore are just mentioned here. The other sites, in the number of nine, are of later origin. All contain ceramics. Materials from those sites provided the essentials of this paper.

THE SITUATION OF THE SITES AND THEIR DESCRIPTION

Campana Machay is a rather small site on the right bank of the river Patón, opposite the settlement of Bella Luz covering the tops of two peaks (4100 m a.s.l.),[5] on both sides of a seasonal stream, tributary of the Patón. Those hard quartzite peaks form a kind of a narrow gate for the stream of flow through. The site comprises two parts (Fig. 2). The west part – (B) – covers the top of a steep rock accessible from north-west only. There are there outlines of small retaining walls, fragments of stairs and other structures impossible to identify. The traces above ground are very faint. Ceramics appear but sporadically.

It was possible better to explore the east part – (A) – (Fig. 3). It is larger and covers the top of the peak and the slope of the dale at its foot. The peak is difficult of access, its north side is nearly vertical, all its other slants are extremely steep. At present access is the easiest through a smallish crevice in the north wall. In all probability this was the way used by the ancient inhabitants of Campana Machay too. There are traces of dwarf walls which could serve as steps. Preservation of the ruins on the peak is very unsatisfactory. The numerous retaining walls located in the most steep and

[3] It is possible that Antashuay and Antakocha Villar Córdova mentions are one and the same site.

[4] *Carta Nacional 1:100 000,* Instituto Geográfico Militar, Lima 1969. The ruins are marked in the map probably as a result of field research, however, many big sites and relatively easy of access, as Quillahuaca and Marca Marca do not figure on the map.

[5] Geographic co-ordinates: latitude 10°40'55" S, longitude 76°46'43" W.

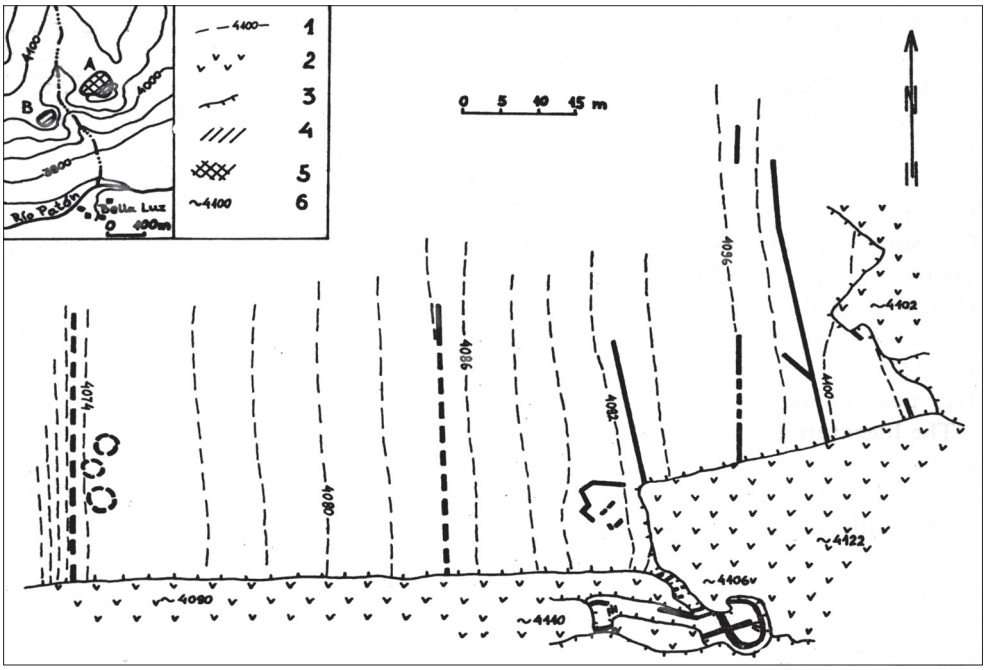

Fig. 2. Plan of the Campana Machay site. 1 − rough contour line; 2 − rocks; 3 − steep precipice or rock wall; 4 − site surface; 5 −part presented in the detailed plan; 6 − rough altitude in m. above sea level

Fig. 3. Campana Machay − general view from north-west

precipitous places prevented landsliding. One may see a distinct outline of the foundations of two houses. They are almost rectangular and the adjacent rocks served as house walls. The larger of the houses is remarkable for its structure – it comprises two rooms on two various levels, connected to each other by means of stairs. Somewhat to the east, in the highest part of the peak, traces of the small walls are numerous, but their bad condition and the extremely diversified morphology of the place afforded no possibility to draw a plan of that part of the site. Probably on the Campana Machay (A) peak could exist some ten houses.

Northwards, at the foot of the rock are some retaining walls up to 1.5 m high, presumably meant to prevent landsliding, to reduce the level of the slope and to form a kind of terraces inclined by 15–20°. On the suppermost terrace and below it considerable quantities of bones were found, at least some of them human ones. This suggests the existence on that terrace of skeleton burials, almost above ground, and liable to be damaged by tillage. Further down, next to the outlet of the crevice, running up to the top of the peak, is an outline of an irregular building – a house? On the lowermost terrace there are faint outlines of foundations of three circular buildings – perhaps the present corrals?

Terrace and house walls are 30–40 cm thick. In a single case only, in the uppermost house on the peak, their thickness reaches 1.2 m. All the walls are made in the same way, of rough stones more or less horizontally arranged. Various quartzite blocks were used, mainly blocks of 30×20×10 cm. Gaps between stones were filled up with clay blended with small size pebbles and gravel. This kind of walls, prevalent in the region of the Andes, is called *pirca.*

The site of **Altar Machay**, having many features in common with the former, is situated at 4000 m a.s.l., almost in the junction of the rivers Oyón and Huaura, on a narrow ridge called C° Altar Machay.[6] That ridge, running NW-SE, has on the Oyón side very steep, abrupt slopes, while on the opposite side it ends in an almost perpendicular precipice of nearly 500 m. The local population calls the ruins located there Yarucalla, extending that name on the ridge itself, the stream and the settlement situated at approx. 1 km south of the ruins. To avoid possible misunderstanding, I gave those ruins a name after the ridge – Altar Machay. This may be translated as – Cave of the Altar, which presumably is connected with graves in the caves and pits of that site.

The site of Altar Machay is a settlement composed of three parts marked A, B, C (Fig. 4) and situated at 40–50 m from each other. All the walls of the site are *pirca* type, of approx. the same thickness (30–45 cm), and are made of quartzite blocks. The Altar Machay A and B are situated in the upmost part of the ridge. They are separated from each other by a range of wild, naked rocks, absolutely unfit for human settling and building, though small retaining walls sporadically occur in that area. They are also to be found lower down on the slope, and at approx. 300 m east of the site. They probably are remains of old terraces in tillage.

The part A comprises ruins of houses and retaining walls, thoroughly devastated and not exceeding 30–50 cm above ground. Only the wall of the terrace with the

[6] Geographic co-ordinates: latitude 10°40'57" S, longitude 76°46'17" W.

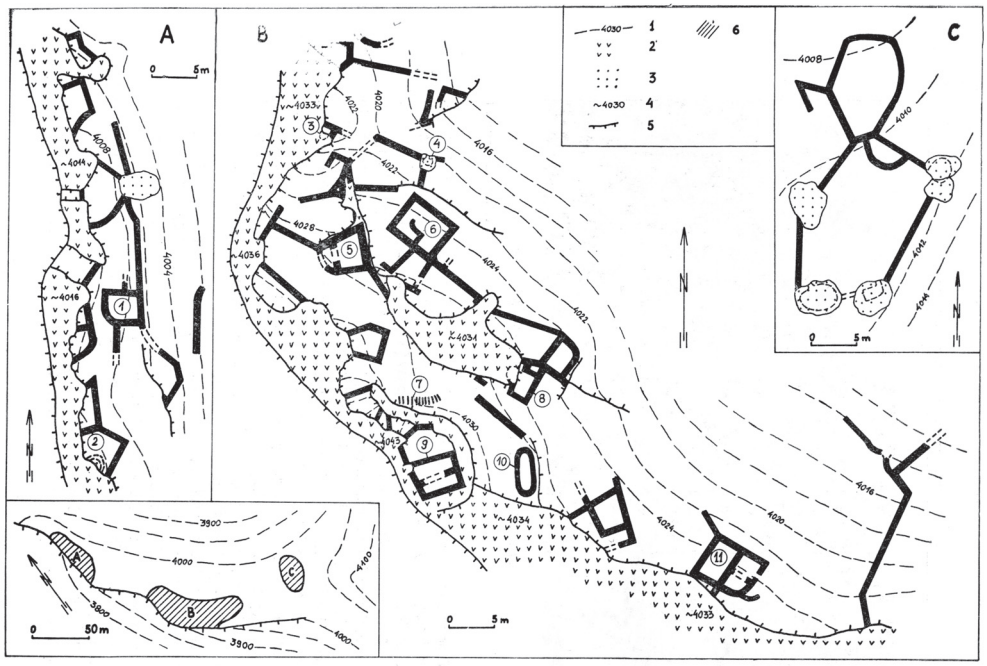

Fig. 4. Plan of the Altar Machay site. 1 – rough contour line; 2 – rocks; 3 – boulders; 4 − rough altitude in m. above sea level; 5 – steep precipice or rock wall; 6 – site surface

house No. 1 is higher – up to 1.7 m. The house, one of the two conspicuously visible, is rectangular, with one quoin rounded up. The east wall of the house passes into a retaining wall and they form a single whole. The plan of the other house is an irregular pentagon, two sides of which are cohesive rock. Inside there is an outline of a semi-circular wall – possibly the remains of a fireplace. Some other walls in the range of Altar Machay A may be foundations of other houses, possibly as much as, five of them, built to plans of very irregular polygons.

The part B of the Altar Machay site covers the largest area, has the highest number of still extant structures and is the best preserved of all. The extant walls are up to 1.5 m high (Nos 8 and 11), and the walls of terraces those houses are frequently situated on are even higher. The site comprises well visible remains of eight houses of various size and outline. Those houses are conspicuously of two types. One of them embraces houses built to a plan of a more or less regular rectangle or square. The plan of the other type has one of its quoins rounded out. The surface of the rectangular houses is various, from 6.5 up to 18.5 m^2. The inner wall existing in some of them (for example in houses Nos 6 and 9) may be remains of partitions dividing the house in two parts. The place of the entrance cannot be fixed because of the utterly bad condition of the walls. Houses with rounded quoin are few – only three. They seem to be more regularly built. The best preserved is the house No. 11, it is also by far the bigger one (21.6 m^2), if however the guess is not taken into consideration that possibly there were

there two houses with a common wall. In any case the disposition of stones proves that the walls were simultaneously built. The smallest of the inner accommodations is so tiny that it certainly could not be used as living place. It was probably a compartment to store food in. The entrance of that house 40 cm wide is located in the rounded wall; it is bordered with large upright stones. The house No. 10 is remarkable for its oblong, oval plan. The walls still extant up to approx. 1 m height show no traces of an entrance. In all probability the building was some kind of a granary.

Other structures to be found at the site may be fragments of devastated houses. Moreover, there are plenty of retaining walls, very irregular, obviously built by instalments in various places according to the need of the moment. Attention should be paid to the stairs No. 7 made of stone slabs; they lead to the uppermost point of the ruins (approx. 4040 m a.s.l.). I found in Altar Machay B three burials, unhappily, all of them robbed. Two tombs (No. 3 and the tomb in house 8) are natural caves, presumably slightly enlarged. The third of those tombs, No. 4, has a narrow entrance which inside widens into an oval chamber, pit-like, digged out under a laying stone. All the tombs very worn out human bones, which suggest skeleton burials.

The easternmost, smallest part of the site (Altar Machay C) covers rather an even area with a large quantity of big boulders. The sole structures are walls forming big polygons – possibly corrals or squares. In the corners of one of the large polygons four big boulders are set, with under three of them big digged out tombs, two oval and a rectangular one. The latter, accurately made, has round it a stone wall with a narrow entrance (40×60 cm), bordered with three slightly worked stones. The shape of the tomb changes according to the shape of the boulder, but is hardly higher than the entrance. All the tomb entrances face the square, which makes presume that it had some role in the burial ceremonies.

The site of **Quillahuaca** covers the peak (4129 m a.s.l.) and the part of the slope of a mountain of same denomination[7]. It is situated at approx. 5 km south-east of the small town of Oyón, in the confluence of the rivers Patón and Pampahuay. Quillahuaca may be translated as the Temple of the Moon, which suggests that the site had some kind of a ritual character of its own, which however has not been confirmed by investigation.[8]

The site comprises two parts (Fig. 5). The top one covers the summit and the eastward ridge, the bottom one is located at approx. 300 m further down, on a steep slope running towards the Rio Patón and bordered on both sides with precipitous ridges. The passage of abrupt rocks dividing the site in two parts is practically impossible.

[7] Geographic co-ordinates: latitude 10°41'27" S, longitude 76°43'58" W.

[8] A member of the Diaz family, owner of the area where Quillahuaca is situated, told me that in ruins of that place is a huge underground room called La Capilla – Chapel. He said he was there more than once, but in spite of my insistent demands, he was not willing to show me the way in. As there are in those parts many underground caves, the story does not seem absolutely incredible. If it proves to be true, this would strongly support the theory concerned with the ancient origin and the genuine name of Quillahuaca.

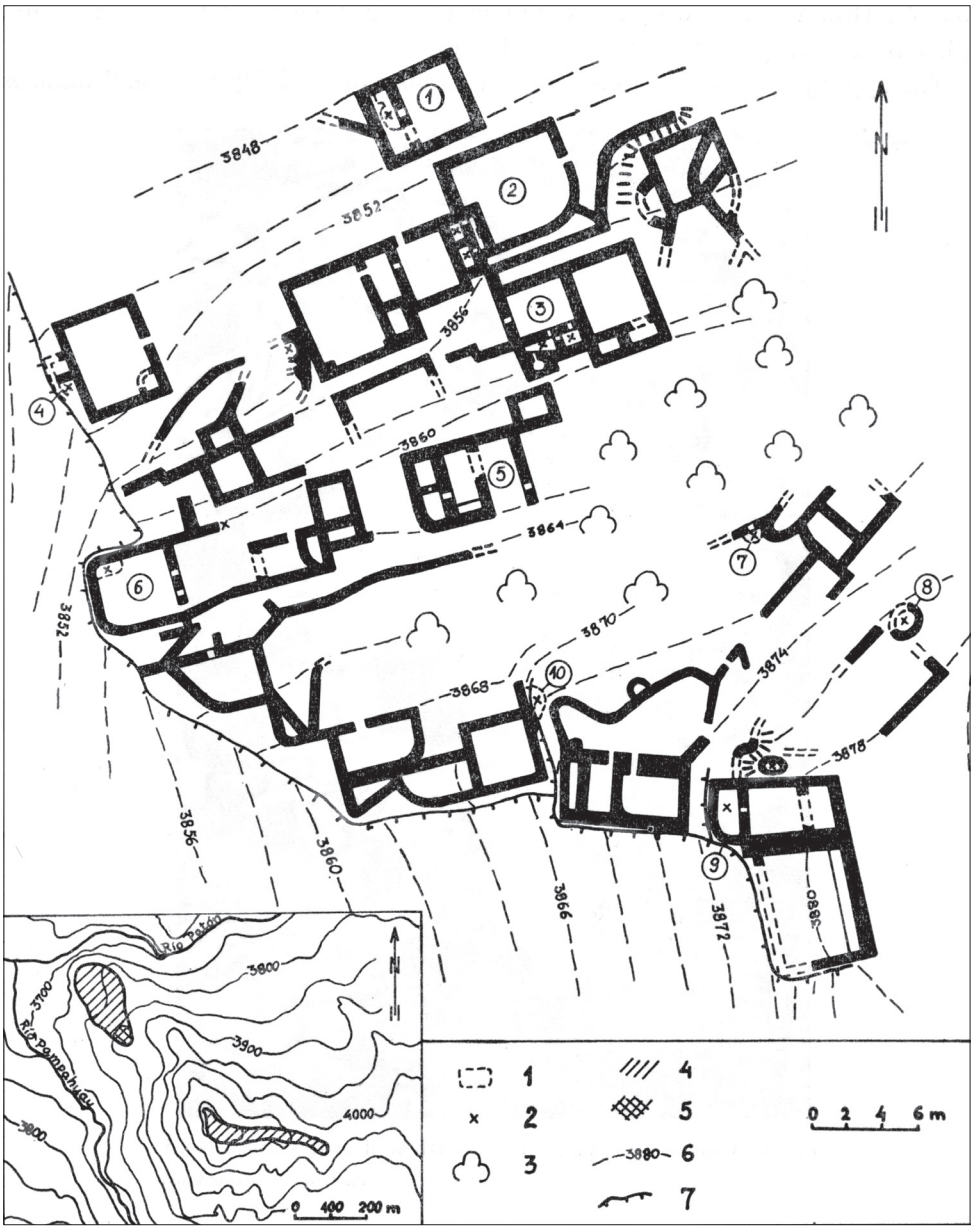

Fig. 5. Plan of the Quillahuaca site. 1 − underground cave; 2 − human bones; 3 − part overgrown with vegetation; 4 − site surface; 5 − part presented in the detailed plan; 6 − rough contour line; 7 − steep precipice or rock wall

However, the two parts were connected to each other by a narrow and rather breakneck pass, partly hewn in the rock.

The upper part of the site comprises a number of retaining walls and outlines of house foundations. The ruins cover the whole area fit for building on. The walls are badly devastated, they seldom reach 0.5 m. It may be presumed that they were delibe-

Fig. 6. Quillahuaca. View of the north wall of the house No. 5

rately destroyed, which seems to be ascertained by a tumulus on the summit, made of stones torn out of walls. The natives say that once upon a time this tumulus served as base of a wooden cross.

The lower part of the sites comprises relatively well preserved ruins of houses and tombs as well as terraces and small retaining walls, all on an average 0.4–0.5 m thick, exceptionally they reach 1 m. They are *pirca* type with stones carefully arranged and surfaces smoothed out (Fig. 6). The clayey „mortar" often contains ceramic sherds. The walls are relatively well preserved; some of them still have their primary height.

As a rule, houses were built according to rectangular or square plans, some of them had slightly rounded quoins. They usually had gable roofs, thatched with *ichu* grass, just as this is done nowadays. The walls were usually 1.8–2 m high. In their top part they were protected and reinforced with flat stones. End walls (up to 3.5 m high) had sometimes stairs-shaped recesses, which probably served for fixing the rafter framing in. In some cases the end walls had on their outside two or three stone pins, which probably also supported the roofing. The entrance was a single small aperture 80×40 cm. bordered with accurately adjusted stones, perhaps somewhat worked out. In some houses the walls had rather small (30×20 cm) rectangular niches, approx. 20 cm deep. They were made so as to have partitions consisting of a single stone each. The niches were made in outside and inside house walls as well as in terrace walls.

Almost all houses were located on horizontal terraces up to 2 m high. Frequently the house took the whole width of the terrace (4–6 m), so that on one side it touched the wall of the next, more elevated terrace, while on the other its opposite wall was an upward prolongation of the terrace on which the house stood. Neighboring houses could have a common wall. Some houses connected in such a way formed a range covering the terrace on the whole of its length. The setting of stones in the walls proves that the ranges of houses were not built simultaneously, but by means of a number of successive additions and outbuildings. Under such conditions of stairs shaped, or terrace shaped, morphology, and of compact building, vertical motion was possible only by means of a system of stairs, either consisting of stones arranged so as to form steps, or hewn in the rock. As a rule, the stairs were narrow (0.8 m) and winding.

It is obvious that the terraces were made almost exclusively in order to gain some building place on the steep slopes, because all the terraces, except the lowest ones, were covered with buildings. This characteristic feature makes the site of Quillahuaca different from others I know in that region. The area of the lower part of the site amounts to nearly 2 ha and bears 100–120 buildings. At the same time the lower part of Quillahuaca is a large cemetery. The dead were not buried in a chosen and limited place – tombs were scattered all over the site. Unhappily, all the tombs at Quillahuaca and in all the other sites were since a long time thoroughly robbed and quite empty. There was no grave furniture left and no possibility to determine the primary position of the dead. All the burials were of skeletal type, and the quantity of human bones they contained makes presume that it happened to put several dead bodies in one tomb.[9]

The structure and the disposal of tombs afford the possibility if dividing them into several types: a) tombs in towers-mausoleums, b) tombs in house outbuildings, c) tombs under the houses, d) in terrace walls, e) in caves. There are only several examples of the first type, remarkable for their structure. They are rectangular towers, sometimes with slightly rounded quoins or oval. Their present condition does not permit to determine neither their primary height nor the character of their copings. The area those towers took was small (3–7 m^2). They stood each apart. The part of the site covered now by a detailed plan comprises two such towers (Nos 8 and 9). One of them is oval, and what still exists is foundation and some walls up to 1 m high. The walls of the other, rectangular tower reach approx. 2 m. Both towers were multi-story buildings. The ceilings made of big stone slabs are very few, but their existence is ascertained in many places by stone wall pins which supported them in the past. The stories were rather low – approx. 0.8 m each. In one of the towers traces were found of three ceilings, otherwise speaking of four stories. In each tower were heaps of human bones. Presumably each tomb housed more than one dead body, perhaps they were

[9] The said Diaz, inhabitant of Oyón, told me that when young he used to search the old tombs for gold, which however he did not find. But he encountered there dead bodies in embryo position, wrapped up in textile or skin, with some vessels beside the human figure. As he said, those tombs date from the time when Earth had three suns, and heat was so great that people were bound to live in caves and pits, where they died.

usually two per story. Each tower had only one entrance, very small (40×60 cm), at the lowermost level. Higher stories were accessible from below, through holes in the ceilings. Tombs of the second type (b) are the most numerous at Quillahuaca, almost every house has a tomb of its own. Usually the tomb was made by separating a part of the house by means of a newly built partition (for example in houses 2, 3 or 5). The tomb was divided in two parts and usually had several levels. The entrance led always inside the house, at various levels. The tomb of the house No. 3 is the best preserved. It has four levels, one of them underground, and nine chambers. An upright partition divides it in two parts. It has two separate entrances, each on its own level, and each leading to a separate part of the tomb. It should be noted that the levels of both parts do not correspond to each other, and their ceilings are at different heights. Holes in the partitions permit to pass from one part into the other. Four of the six ceilings still exist, neither of them has holes. Nevertheless the system of inner passages in partitions gives access to all the chambers without going out of the tomb.

Some houses are provided with tombs under the floor, usually single grave chambers, lined with stones and covered from above with big stone slabs. Their dimensions are various, usually they are 2×1 m, and 0.6–0.8 m of height. I know three tombs of that kind at Quillahuaca, in houses Nos 1 and 6. It should be kept in mind, that with the lack of proper research work, such tombs can be discovered by chance only.

Tombs in terrace walls are scarce. Usually they comprised an oval chamber with a single entrance located on various levels (No. 7). If the terrace wall occurred to be at the same time a wall of the house, the tomb was accessible from the inside of the house. This tomb type may be considered the third one connected with houses.

The last type of the Quillahuaca burials embraces tombs in caves and recesses. The bed-rock of quartzite sandstone has but minor gaps, usually long and narrow crevices or wide open recesses. Almost all the caves of the site were arranged as tombs (for example Nos 4 and 10). On the outside they were closed with stone walls, with small entrance apertures in them. There are eight such tombs, and in two of them human bones were found belonging to at least two persons.

The site of **Marca Marca** is situated in the valley of the Huaura, called in those parts also the Rio Quichas, 6 km north of the small town of Oyón, at approx. 3700 m a.s.l.[10] The denomination Marca Marca refers to the ruins only. The name if of local origin, in the *Quechua* language it means – big settlement, town. The site is situated on a high river terrace of accumulative character. It covers the whole of the right side of the valley. Westwards it reaches the steep wall of the C° Mashuaragra, eastward it touches the acclivity of 20 m which falls down to the river bed. The erosive activity of the Rio Quichas results in slope washout and progressive landsliding, pulling down the ruins. The Oyón-Raura road runs across the central part of the site. Its making destroyed many buildings.

The Marca Marca site consists chiefly of ruins of houses, identical in structure and shape to those of Quillahuaca. However, one may note more care in the choice of stones and a considerable regularity of individual buildings. Many walls are in quite

[10] Geographic co-ordinates: latitude 10°36'21" S, longitude 76°46'17" W.

a good condition, some houses have still entire end walls up to 3 m high. Moreover, some low stone walls have been discovered, forming circles of 4–5 m diameter. Their dimensions and their location among buildings suggest that they may be vestiges of round-section houses.

Many houses have outbuildings with tombs inside. In the houses occur some small (0.5×0.5 m) square structures with one partition leading against the wall. One of those structures housed some human bones which however seem to have been put there not long ago.

The site covers an area of approx. 0.5 ha. The building development is rather dispersed, most houses stand each apart. The site comprises 50–80 houses.

The site **Golgue** is situated at approx. 2 km south-west of Oyón, on a rocky saddle and the south border of the promontory called C° Golgue (approx. 3950 m a.s.l.).[11] The quartzite sandstone promontory towers to 500 m above the river Huaura at its foot. The site is difficult of access: westwards it ends in an almost perpendicular precipice, and eastward in very large scree-covered spaces. This determined its name which in the Quechua language means – stone accumulation.

The site consists in ruins of stone buildings, covering rather a plain, slightly wavy space. The buildings are irregularly situated close to one another. The *pirca* type walls are in bad condition, usually they do not exceed 1.5 m, in some rare cases they amount to 2.5 m. The houses are built to an elongated rectangular or to a square plan. The large number of rounded quoins seems to be a characteristic feature of the site. They give to some buildings an oval outline. Frequently one of the inner corners of the house is separated by means of a low, semicircular wall. The site has traced out passages, often paved with stone slabs, and in case of need provided with stairs.

North-east of the site is a flat space, divided in some irregular squares surrounded with walls. The dimensions (60–100 m^2), the peripheral situation of those squares, their accumulation next to each other, suggest that they were llama corrals. The site covers the area of approx. 0.8 ha and comprises 60–80 houses.

Huacho Sin Pescado I is a site situated on the northward slopes of the Rio Checras valley, at approx. 3550 m a.s.l.,[12] next to the village of Huacho Sin Pescado. The site is placed on the slightly wavy slope, faintly inclined to southeast. Some ruins are situated within the range of the village laying further down; in the past the settlement was a big one, it comprises a large quantity of house and tomb ruins. It is remarkable for the size of its houses and of the area it covers, said to amount to 6–8 ha. The building development is not very dense. The buildings, the number of which amounts to me to 200–300 are scattered all over the whole area.

The *pirca* type walls are made of stones bigger than in the other sites and possibly to some extent worked out. Big slabs (for example 150×50×30 cm) were used, especially for quoins and entrance framings. The stones were set in roughly horizontal

[11] Geographic co-ordinates: latitude 10°40'23" S, longitude 76°47'20" W.

[12] Geographic co-ordinates: latitude 10°51'15" S, longitude 76°50'00" W. Not knowing the local name of the site, I called it after the nearby village. For this reason I gave the same name to the neighboring site. To avoid misunderstanding I provided both places with Nos I and II.

ranges, but sometimes, chiefly at the base of the wall, they stand upright. In many cases the regular setting of stone slabs resulted in a stratified structure of the wall.

The houses are built to a rectangular plan, mainly of 3×6 m or bigger, 10–12 m long. The single entrance was rectangular and rather large (1.2×0.6 m). Sometimes walls had outside and inside niches. Some walls of the houses reach 5–6 m and seem never to have been higher. In the best preserved houses all the walls are of more or less equal height, which suggests that the roofs were not gable type (as in Quillahuaca and Marca Marca), but flat or slightly inclined. Almost all the houses were multi-story buildings, which are suggested by the presence in the walls of ranges of stone pins which once supported the ceilings. Neither of the houses I explored had ceilings, and seeing the good condition of the walls, one feels inclined to presume that the ceilings were made of some material liable to quick wear, for example of timber. Individual stories were low (1–1.2 m). As a result some houses had five stories i.e. 4 ceilings.

Some large size buildings are remarkable for a characteristic architectural element never found in other sites. Along the top of the longer wall runs a small stone hood, protruding outside by a dozen cm. Below the hood is a range of small windows (approx. 25×15 cm) at about 1 m from each other (Fig. 7).

Tombs are scattered everywhere in the site. They are chiefly in multi story house outbuildings, frequently located between two neighboring houses and to some extent connecting those houses to each other. The grave chambers and their entrances are rather large.

The site **Huacho Sin Pescado II** is situated approx. 1 km north-east of the former, on a rocky culmination of the slope of the Rio Cayash valley, at approx. 3800 m a.s.l.[13] In all probability this site was once a fortified settlement or *pucara* type stronghold used as shelter in case of danger by the inhabitants of the nearby Huacho Sin Pescado I. The site comprises building, wall and terrace ruins of *pirca* type. If compared with Huacho Sin Pescado I, at Huacho Sin Pescado II the houses are more narrow (2×6 m) and lower (Fig. 8). No buildings with windows, no tombs. The slope being very steep almost all the houses are built on terraces (5–6 m wide, and 1.5–2.5 m high). They stand across the terrace and fill up almost the whole of its width.

The buildings are surrounded with a wall which partly passes into a terrace, and in some places is replaced by building walls. The uppermost part of the ruins is separated from the slope by a ditch (3–4 m wide and 1.5–2 m deep), which is possible a remainder of an old canal, but it can as well be an element of a defense system. The site covers an area approx. of 0.5 ha and comprises 30–40 buildings.

Andajes is a site situated 1 km north-west of a small town of same name, at 3700 m a.s.l.[14] It covers the summit and the slopes of a not very high hill, in total an area of approx. 0.2 ha with ruins of houses and terraces. The structure of the walls and the character of the buildings remind us of those of Quillahuaca. The whole area is overgrown with bushes and cactuses. The dense vegetation and the lack of time prevented my picking a surface collection of ceramics.

[13] Geographic co-ordinates: latitude 10°57'42" S, longitude 76°49'42" W.

[14] Geographic co-ordinates: latitude 10°47'07" S, longitude 76°54'59" W.

Fig. 7. Huacho Sin Pescado I. House with small windows

Fig. 8. Huacho Sin Pescado II. Houses in terraces

Fig. 9. Stairs in the pre-Spanish road

Besides sites referred to, I discovered in the region under investigation some lesser sites, consisting sometimes of a single house, corral or terrace. Big accumulations of old terraces, perhaps agricultural, were discovered in the vicinity of the town of Oyón and on the left-hand bank of the Rio Oyón. Numerous individual buildings occur on both banks of the Patón.

An object of interest is the old **pre-Spanish road** followed I on a length of approx. 10 km. It runs along the dale of the Pampahuay-Pucayacu and crosses the main ridge of the Andes Cordillera at 4800 m a.s.l., in the glacier zone. In accordance with the morphology the width of the road is of 1–8 m. In plain spaces both sides of the road are marked with stones, on the slopes occur stairs made of stones (Fig. 9) or hewn in the rock. Some parts of the road are paved. At the place where the road crosses the Rio Pucayacu still exist vestiges of bridge abutments. Some very devastated buildings occur along the road; presumably in the past they were used as shelters by people travelling in that deserted land.

Table 1. Percentage and granulometric and mineral composition of temper in the Upper Huaura ceramics

Figure	Ceramic type	Site	Temper percentage	Granulometric composition of temper in %				Mineral composition of temper in %				Notes
				grains below 0.1 mm	grains ranging 0.1-0.3 mm	grains ranging 0.3-0.5 mm	grains over 0.5 mm	quartz	feldspar	mica	others	
10 a	San Blas Impressed	Campana Machay	41.0	44.7	37.1	9.8	8.4	45.5	23.4	22.0	9.1	
10 b	San Blas Impressed	Campana Machay	33.3	52.0	35.0	10.0	3.0	66.0	9.0	18.0	7.0	
10 f	San Blas Impressed	Campana Machay	34.7	53.8	23.1	18.3	4.8	61.5	15.4	16.3	6.7	
10 c	San Blas Impressed	Campana Machay	38.0	57.0	36.0	7.0	absent	70.2	11.4	10.5	7.9	
13 f	Red-Black-on-Buff	Quillahuaca	26.7	80.0	20.0	absent	absent	42.5	absent	40.0	17.5	
13a	Red-Black-on-Buff	Quillahuaca	30.0	83.3	12.2	3.3	1.2	65.5	5.5	22.2	6.8	
13 c	Red-Black-on-Buff	Marca Marca	32.7	53.0	18.5	16.3	12.2	38.8	absent	22.4	6.1	Moreover igneous rock chips (32.7 %)
13 e	Red-Black-on-Buff	Marca Marca	42.0	63.5	22.2	7.9	6.4	68.3	7.9	14.3	8.5	
12 b	Quillahuaca	Quillahuaca	57.7	60.6	21.5	9.8	8.1	47.9	14.0	21.4	16.7	
12 l	Quillahuaca	Quillahuaca	49.0	67.3	17.7	6.2	8.8	62.6	6.1	17.0	16.3	
12 f	Quillahuaca	Golgue	52.7	72.1	14.0	7.6	6.3	49.4	7.6	29.1	13.9	
12 k	Quillahuaca	Marca Marca	33.0	58.6	16.2	10.1	15.1	47.5	10.1	24.2	18.2	
12 e	Quillahuaca	Huacho Sin Pescado I	41.3	47.6	30.6	13.7	8.1	46.8	26.6	10.5	16.1	Large feldspars
12 h	Quillahuaca	Huacho Sin Pescado I	39.7	32.0	37.0	17.6	13.4	41.2	27.7	15.1	16.0	Large feldspars
13 o	Inca	Quillahuaca	34.3	79.6	10.7	6.8	2.9	68.9	6.8	13.6	10.7	
13 i	Inca	Quillahuaca	45.3	63.2	17.6	12.5	6.7	55.9	15.4	16.2	12.5	Large feldspars
13 h	?	Huacho Sin Pescado I	43.0	43.8	24.8	14.7	11.6	66.0	4.6	21.7	7.7	

CERAMICS

The total number of ceramic pieces collected by me amounts to 1145. However this number as well as that of individual collections concerning the given sites[15] reflected neither their real contents nor the area. This the due to the limited time I could devote to gathering. Most fragments seem to have been used and it is quite probable that all the collection (with few exceptions) constitutes pots of every-day usage.

Microsections were prepared from 17 representative fragments aimed at granulometric and petrographic analysis (Table 1). While performing the above analysis I used a polarizing microscope synchronized with ELTINOR in order to carry out measurements of accidental magnitudes of grains along the parallel measurement lines. The measurements and calculations were effectuated according to the rules given by Tickell (1965).

The macro- and microscopic analysis allowed to distinguish two main types within the collected ceramics differing considerably in respect of paste. The most common type, hereinafter referred to as type A, is generally characterized by the high content of non-plastic tempering admixture, ranging 33–58%. Small grains predominate in the admixture, below 0.1 mm in size, being undoubtedly a natural clay component. As to bigger grains (over 0.3 mm) which could be regarded as a possible artificial admixture they show high variations (7–31%), with average reaching about 18%. All the grains are sharp-edged (Fig. 15a, b, e–h). As it results from the analysis of mineralogical composition the admixture contains mostly quartz and mika grans[16] of various size as well as big (usually over 0.5 mm) feldspar crystals well preserved. Sporadically one can finds also bigger fragments of quartzite sandstones or volcanic rooks[17]. The occurrence of feldspars (which being less resistant to weathering could not be so well preserved in clay), rock fragments and the fact that grains are sharp-edged prove the usage of an artificial tempering admixture in a form of broken stones (Shepard 1974: 156–162). Disintegrated volcanic rock was served probably as a tempering material. No constant proportion was observed during tempering which is reflected by high variation of granulation as well as by the general composition of the admixture.

The other type of paste (type B) is characterized by fine-grained structure (Fig. 15c, d) and low content of non-plastic admixture (27–33%). Big grains, exceeding

[15] Respective numbers are: Campana Machay – 562, Altar Machay – 92, Quillahuaca – 327, Marca Marca – 48, Golgue – 59, Huacho Sin Pescado I and II – 57.

[16] Though S. Linné (1925: 29–31) quotes examples in America where pure mica was used as a tempering admixture, it seems improbable to interpret that way the great amounts of that mineral in the Huaura ceramics. There are no mica deposits accessible and the size and the form of the mica grains provide for the grains to be rather natural clay components.

[17] A similar grain and mineral composition may have glacial origin clays extent on the territory. It is impossible to eliminate their usage in the ceramics production as too small a number of microsections has been investigated and because of the lack of any test material from the clay deposits. In this case, however, a part of the big grains should bear some traces of transport erosion that have not been noticed in any of the fragments investigated with the microscope.

0.3 mm (0–5%) are actually absent here and so is the feldspar. This proves that in this case no artificial tempering admixture was used. Besides, kaolin prevails among the clay minerals which make the ceramics creamy and so easy distinguished. In the investigated area the kaolin clays have not been found which means that this kind of ceramics was not manufactured in the basin of the Upper Huaura.

As far as the style is concerned the ceramics in question is composed of two differing complexes. The first (hereinafter referred to as set I) consists of fragments from Campana Machay and Altar Machay, the other (set II) is represented by fragments found in the remaining sites. It is worth pointing out that the ceramics classified in the given complex is strictly related to the mentioned sites and thus, for instance, no fragments of set II were found in the sites from where set I originates or vice versa.

Set I includes pot fragments made of paste A. Their surface shows high variations in color[18] ranging from brown-black (5 YR 2/1), through dark yellow-brown (10 YR 4/2) to red-orange (10 R 4/6). As to the cross-section it ranges from brown-black (5 YR 2/1), through light brown (5 YR 5/6) to red-brown (10 R 3/4). High variation in colors is the result of irregular firing. The ceramics was carefully polished on both sides by means of a tool which left shallow scratches on its surface. Finger-prints can be seen especially on the inner side which together with some textural features could suggest that modeling with clay rolls was applied. The rim fragments belong probably to pots, jars, bowls and neckless vessels. Also numerous are handles and probably body sherds of non-identified vessels.

The majority in the collection that is the edge fragments of the pots and jars (Fig. 10g–m) are characterized by having unprofiled rims, truncated a little in some cases. The edges were slightly deflected outwards and passed gradually arch-wise into the neck. The wall thickness of these vessels ranged from 5 to 10 mm and the mouth reached 12 to 19 cm in diameter.

The bowls (Fig. 10a–d, p–v) had the rims unprofiled, slightly truncated outwards and thickened inwards in some cases. The edges were straight and vertical or slightly deflected outwards or they might be gently bent arch-wise inwards (we have the evidence of this in a few fragments). Frequently the edges of the bowls were thickened slightly at their rims. The wall thickness ranged from 5 to 10 mm, and the mouth diameter from 10 to 26 cm. The only fragment of a flat bottom (Fig. 10aa) belonged to a bowl most probably.

The neckless vessels (Fig. 10n, o) had the edges strongly bent inwards and the unprofiled rims. Their wall thickness ranged from 6 to 8 mm and the mouth diameter from 17 to 19 cm.

There are two types of handles in the collection under investigation: the round and the oval ones (Fig. 10w, x) coming exclusively from Campana Machay and flattened ones (Fig. 10y, z) found only in the Altar Machay site. The handles were most probably glued to the pot or jar bodies; which has been concluded from the noticeable traces left on that vessel type fragment (Fig.10j).

[18] The color denoting is referred to the system and scale by Munsell Colour Company. Rock-Color Chart, Boulder 1970 was used here.

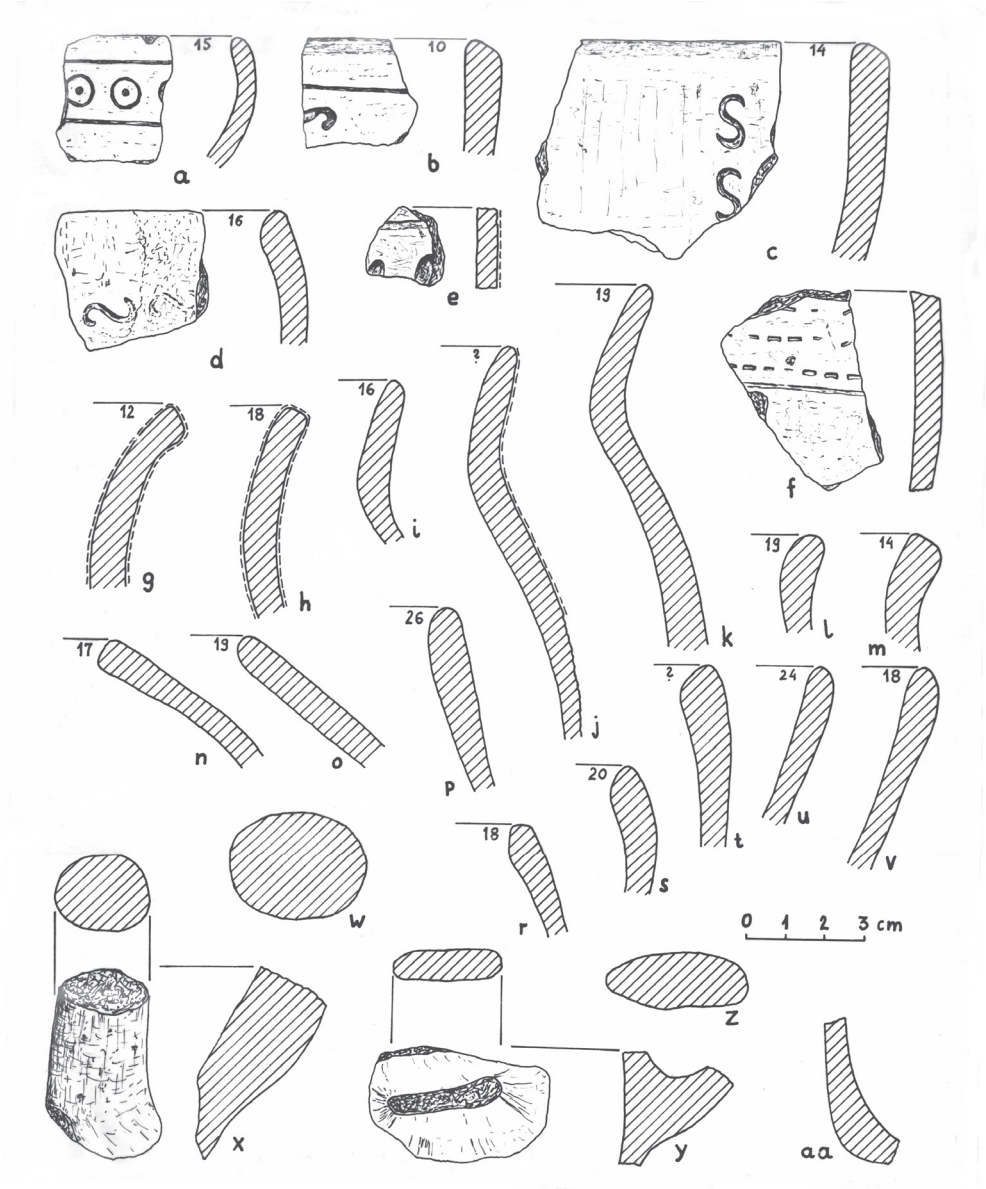

Fig. 10. Ceramics from the Compana Machay site (a, b, f–h, l, m, o, r–t, w, x, aa) and the Altar Machay site (c–e, i–k, n, p, u, v, y, z). Broken lines at the cross-sections denote the range of red color painting (it is referred to all figures with ceramics)

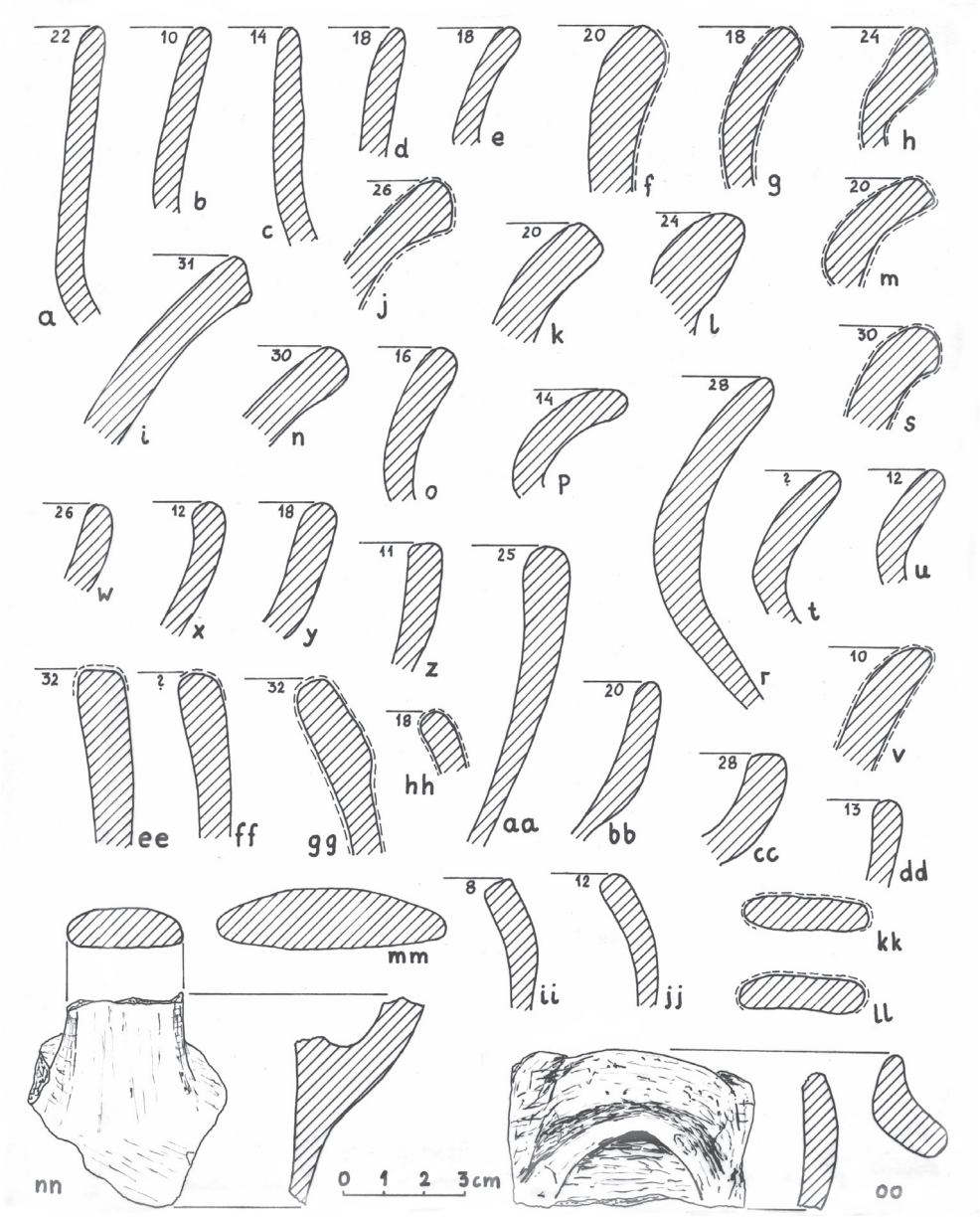

Fig. 11. Ceramics from the Quillahuaca site (a–f, i–l, n–u, w–z, gg, hh, mm, oo), the Marca Marca site (m, cc, kk, ll), the Golgue site (aa, bb, dd, ii, nn) and the Huacho Sin Pescado site (g, h, v, ee, ff, jj)

A part of the set I ceramics (15%) was uniformly painted red on both sides or only on the outside surface. Some bowls and pots bear the traces of painting; none of the fragments of the neckless vessels or handles, however, have been found painted.

A small number of fragments were decorated with patterns impressed in fresh paste. Great care and precision the decoration had been done with is noticeable. Each of the pattern elements was impressed evenly and to the same depth, which indicates that a kind of a special stamp had been used. Some of the fragments with impressed decoration were covered with red paint. The decorative patterns were impressed on outside edges of the bowls but only of the small ones (less than 16 cm in diameter). There were several decorative patterns. One of them were "S" (Fig. 14b) printed along horizontal or vertical lines running below the rim from which sometimes they were separated with another horizontal line (Fig. 10b–d). Another decorative pattern consisted of a row of circles with a dot in the centre, parallel to the rim and printed within two horizontal lines (Fig. 10a; 5c). The fragments of some unidentified vessels bear traces of another decoration patterns: they are several parallel lines regularly broken (Fig. 10f) or a set of lenticular concaved lines (Fig. 10e); in both cases, however, the patterns were bordered with a horizontal line on one side. All of the above patterns and the technique of production are almost identical with the San Bias Impressed type known in the Central Andes.

The set II consists of fragments coming from Huacho Sin Pescado, Marca Marca and Quillahuaca. Generally speaking, this ceramic material is not as uniform as that of the set I. The fragments vary in the paste and in the decoration techniques (painting or impressing). The fragments that had not been decorated at all and that had been decorated with the impressing dominate.

The uniform group is composed of parts of bowls made of the type A paste. Their surface colors vary from orange (10 R 7/6) through brown (5 YR 5/4) to dark grey (N4). This is a result of the uneven firing which caused consequently the cross-section dark core (almost as a rule) with lighter halo around it. The colors range here from yellow-brown (10 YR 5/4) through light brown (5 YR 5/6) to grey-black (N 2). The vessels were not very carefully polished on both sides with a tool that left noticeable and more or less horizontal traces.

The edge fragments of the bowls (Fig. 11w–jj) show a great variety of that sort of vessels. There were bowls with bent edges, sometimes thickened at their rims that in turn were gently rounded and left unprofiled. The vessel diameters ranged from 11 to 28 cm and the wall thickness from 4 to 10 mm. A number of these bowls, at least, seem to be relatively shallow (a kind of plates). The other ones had edges slightly bent inwards, thickened at the rim. Their mouth diameters ranged from 8 to 32 cm. Some fragments of this sort of ceramics were painted red on both sides. Besides, two fragments have been found in the Huacho Sin Pescado site that belongs to relatively big bowls (32 cm in diameter). They have uniformly thick, straight, vertical edges and unprofiled rims painted red.

Another bowl type is represented by a number of unpainted fragments with edges strongly bent outwards (Fig. 12a–n; Fig. 14a, d, i–k). Their wall thickness ranges from 4 to 10 mm and the mouth diameter from 20 to 32 cm. The edges are here characteristically thickened at the outside part of the rim (a strap 1.5–3 cm wide). The edges have a characteristic profile. The central part of it is more or less concaved

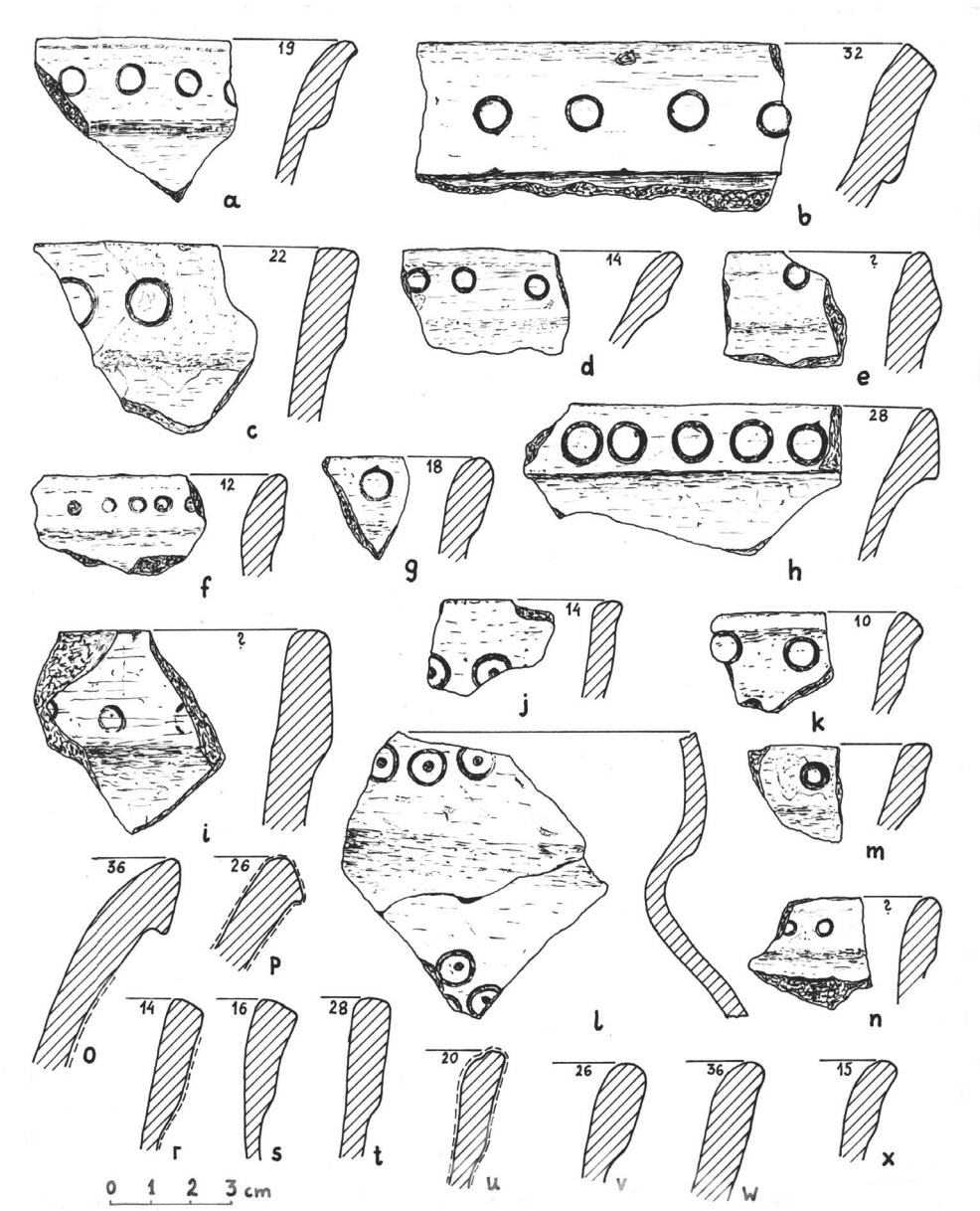

Fig. 12. Ceramics from the Quillahuaca site (a–d, l, m, r, s, w, x), the Marca Marca site (j, k), the Golgue site (f, n, v) and the Huacho Sin Pescado site (e, g–i, o, p, t, u)

while the terminal part are convex and pass arch-wise into the wall of the vessel on one side and into the gently rounded rim on the other side. There are two other variants of this edge type. In one the thickened edge bends almost to a right angle while passing into the vessel wall; the rim is truncated outwards and the central concave of

the strap is hardly noticeable (Fig. 12b). The other (e.g. Fig. 12n) has a sharply topped rim; the thickened strap has a straight vertical profile and cuts itself stepwise off the wall. In all variants there are circles impressed in fresh paste and put in a line along the thickened part of the edge and in its central part.

The difference in the impression depth (0.2–2 mm) and the irregularity of spacing prove that the decorative pattern was made carelessly. The diameter of the circles also varies on different fragments (4–11 mm). The same decorative pattern has been found on a fragment of an unidentified vessel (at the inflection between the neck and the body). Here, a row (near the rim most probably) and a set of three (on the body) was made up of the circles with dots.

The above vessel type characterized as one having a thickened edge at the rim and being decorated with impressed circles has been called Quillahuaca. There are two main reasons for distinguishing this type and calling it a new name: it dominates in many sites and is best sampled in Quillahuaca; it is easy identifiable due to its characteristic features.

The Quillahuaca type includes without any doubts also undecorated bowls (Fig. 12o–x). This is because they have the same colors, the same paste and the same variants of edges thickened at the rim. The bowls were sometimes only painted red outside or on both sides. Their diameter varies from 14 to 36 cm, and their wall thickness ranges from 3 to 10 mm.

There are, in the set II, edge fragments of pots and jars identical in paste and colors to the Quillahuaca ceramics. Some of them (Fig. 11a–e) have a straight, almost vertical neck, slightly bent outwards and noticeably bent at the inflection point. The mouth diameter ranges from 10 to 22 cm and the wall thickness from 6 to 7 mm. Other pots (Fig. 11f–v) had collars relatively short, strongly bent outwards and passing gently arch-wise into the body. Their rims are either rounded and unprofiled or thickened from outside or truncated. Some fragments are painted red on both sides. The mouth diameter of these vessels ranges from 10 to 31 cm and the wall thickness from 6 to 11 mm.

There are characteristic edge fragments (Fig. 13i, j, m, n) of jars that had been made of the type A paste. They had strongly bent outwards necks and gently rounded rims (sometimes flattened outwards). The jars resemble aryballoid vessels – common forms in the Inca times. On the outer side of one of the specimens (Fig. 13r), there is a visible trace of a small glued element, supposedly oval in shape, that served as a lug handle, a common feature for Inca ceramics. The fragments of aryballoid jars are covered on one or both sides with a uniform layer of red slip (5 R 4/6) giving them characteristic glitter. The vessels were smoothed on both sides (not very carefully) with a tool leaving broad grooves. They were fired uniformly and the cross-section is in most cases red-brown (10 R 4/6). The mouth diameter of these jars ranges from 14 to 16 cm and the wall thickness from 6 to 9 mm.

Besides the body and edge fragments there have been found a number of other characteristic sherds. There is a leg fragment (Fig. 13h; Fig. 14e) from Huacho Sin Pescado that is, most probably, a part of a tripod vessel. It was made of type A paste

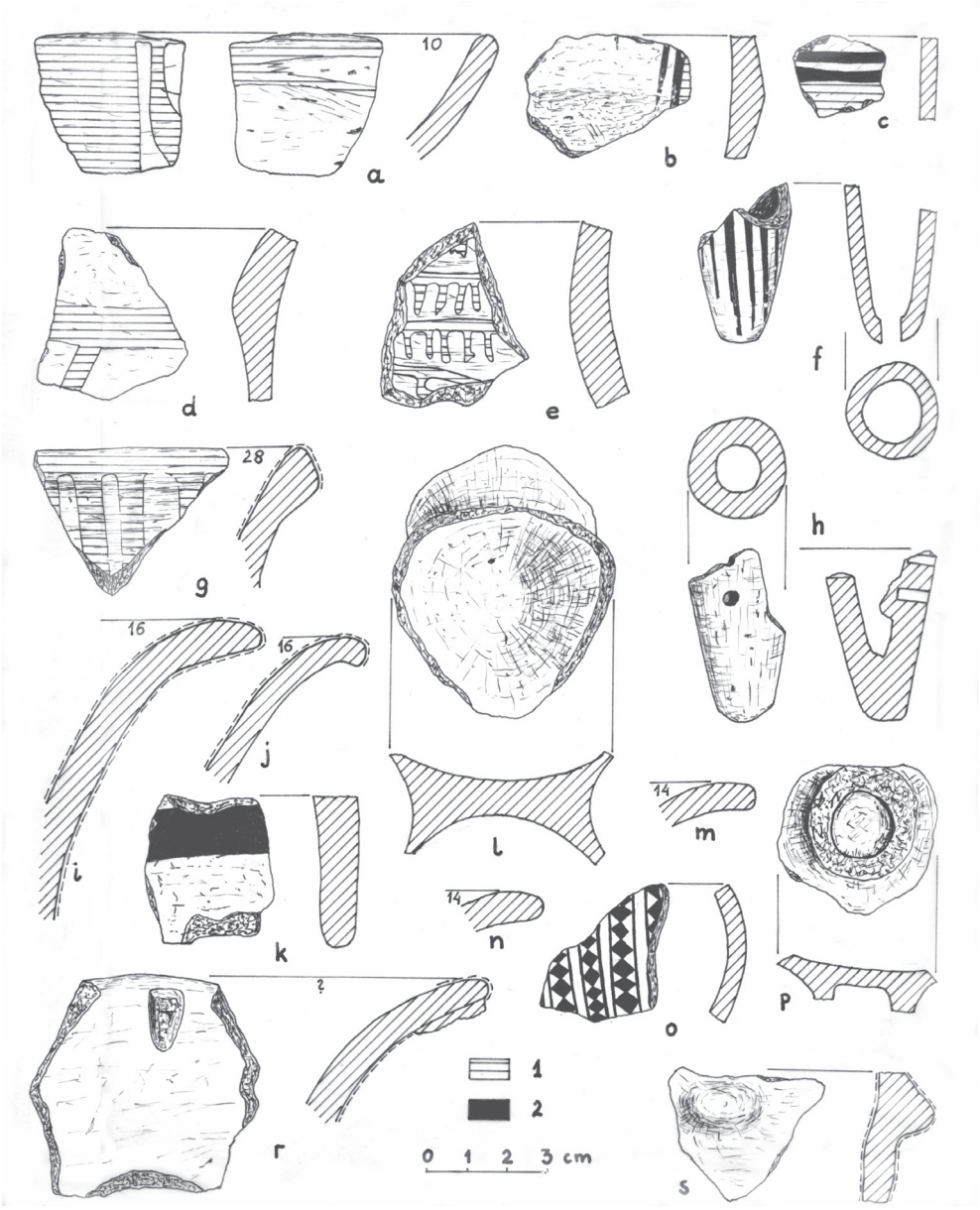

Fig. 13. Ceramics from Quillahuaca site (a, b, d, j, i, l, n–s), the Marca Marca site (i, e, j, k) and the Huacho Sin Pescado site (g, h, j, m): 1 – painting red; 2 – painting black

and carefully smoothed afterwards. Uniform firing is reflected in the color change of the surface and the cross-section from red-brown (10 R 5/6) to grey-brown (5 YR 2/2). The conical leg was round-bottomed and empty inside. It was left unpainted but not without decoration. Here two vertical rows of holes (facing each other) were

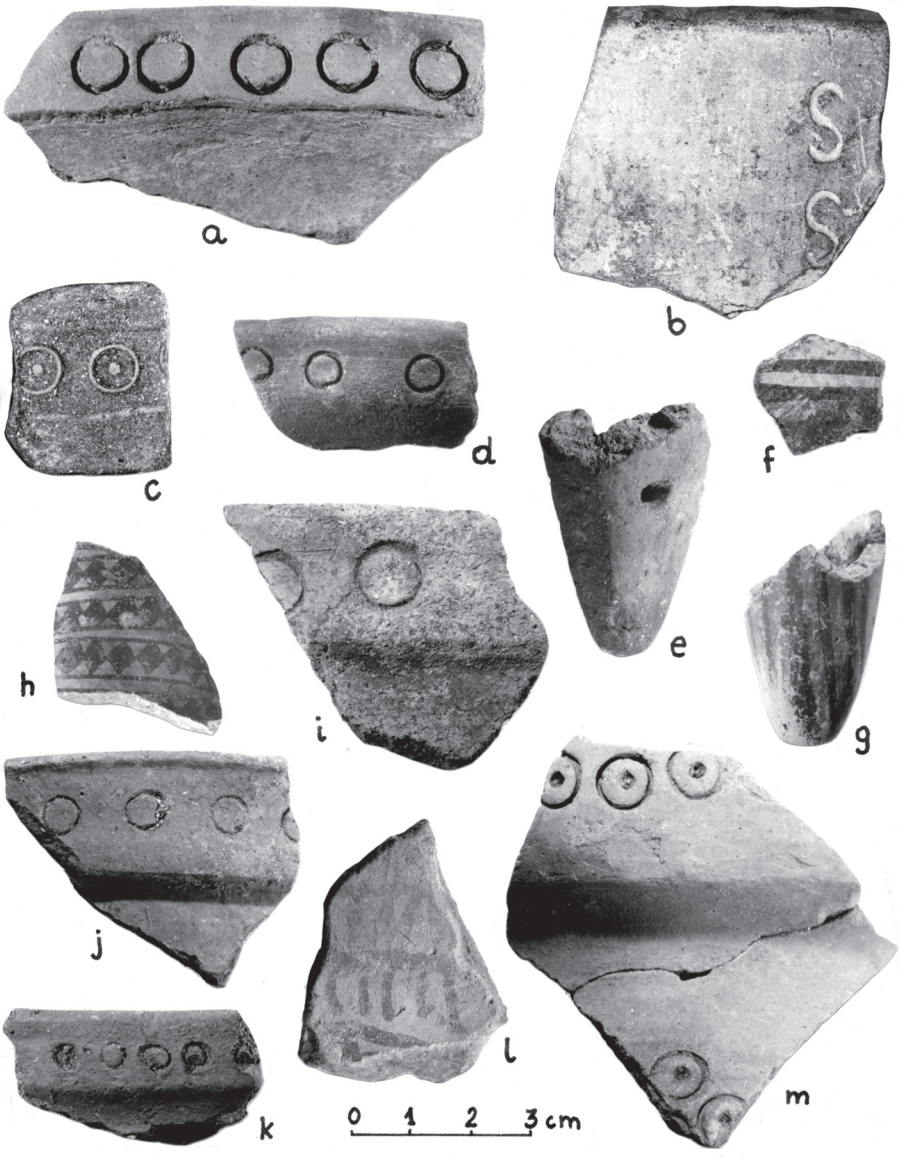

Fig. 14. Ceramics from the Campana Machay (c), the Altar Machay site (b), the Quillahuaca site (d, g–i, m), the Marca Marca site (f, l), the Golgue site (k) and the Huacho Sin Pescado site (a, e)

made obviously from the outside. A bottom fragment of a flat-bottomed vessel has been found too (Fig. 13p). It has a round trace of a lost leg.

A fragment (Fig. 13l) of a ring-like pedestal, glued, perhaps, to the bottom of a goblet suggests the presence of another vessel type. The specimen was made of

type A paste. It was carefully polished and well fired. The surface is yellow-brown (10 YR 4/2) almost identical with the cross-section (10 YR 6/2). Unfortunately this only specimen does not allow any certain interpretation of the vessel shape. It might be a figurine as well.

The handles (Fig. 11kk–oo) that had been collected are strap. They were glued probably to the vessel bodies and, some of them at least, horizontally. There are several fragments that were painted red on the outside. A few sherds are relatively wide, about 5.5 cm.

Painted fragments are not numerous; but those that have been found are very interesting because both of their colors and their decorative patterns. There is one handle fragment that has a 1 cm wide strap painted black on the yellow-brown background. Another decorative pattern found on two fragments (Fig. 13d, g) consists of straps painted on the natural light brown background (5 YR 6/4). Here we have pot made of type A paste with neck intensely bent outside and a thickened rim. Vertical red straps were painted on the outside while the rim and the inside were red (5 R 4/6) slipped (Fig. 13g).

In the Marca Marca site there has been found a type A paste fragment that has a decorative pattern on the inside surface (concave), painted red on the buff background (Fig. 13e; Fig. 14l). The outside colors vary from brown (5 YR 3/4) to dark grey (N 3), which probably resulted from ununiformed firing. There is a grey-black (N 2) core with a light halo on the cross section. The surfaces of the fragment were smoothed but not very carefully. Parallel lines with vertically running "hooks" make up a painted pattern. The decoration was painted carelessly. The style, the decorative technique and the colors of this pattern resemble the San Blas Red-on-Buff ceramics.

The other fragments from the painted ceramics group have many characteristic features in common: the type B paste, carefully polishing on both sides and uniform firing. Their surface, on which red-black decorative patterns were painted, is grey-orange (10 YR 8/2) and switches to cream (10 YR 6/2). The color of the cross-section is usually the same, except the central part where it changes in some fragments to darker, grey-brown (5 YR 3/2). This type of ceramics will be referred to, since now on, as Red-Black-on-Buff ceramics. A fragment of conical leg, rounded at the bottom with a characteristic hole in it, was partially covered on the outside with a red paint (Fig. 13f; 5g). On the background of the red areas there are vertical irregular thin black straps. In the same site (Quillahuaca) there has been found a fragment of a bowl (Fig. 13a) with edges intensely bent outside and unprofiled rim. The rim and the at-rim outside part of the edge are carefully painted red; on the inside, however, there are vertical straps of various thickness painted also red. Considering the type B paste, the fragments were made of, the vessels should be treated as imports.

Two other fragments have been found that differ in the paste though they were painted in the Red-Black-on-Buff style. The paste is, generally speaking, of the type B, it contains, however, a greater number of grains bigger than 0.3 mm (28%). The only fragment investigated with the microscope contained as much as 38% of magma rocks (Table 1). It seems that the vessels were made on the spot of good quality clay with

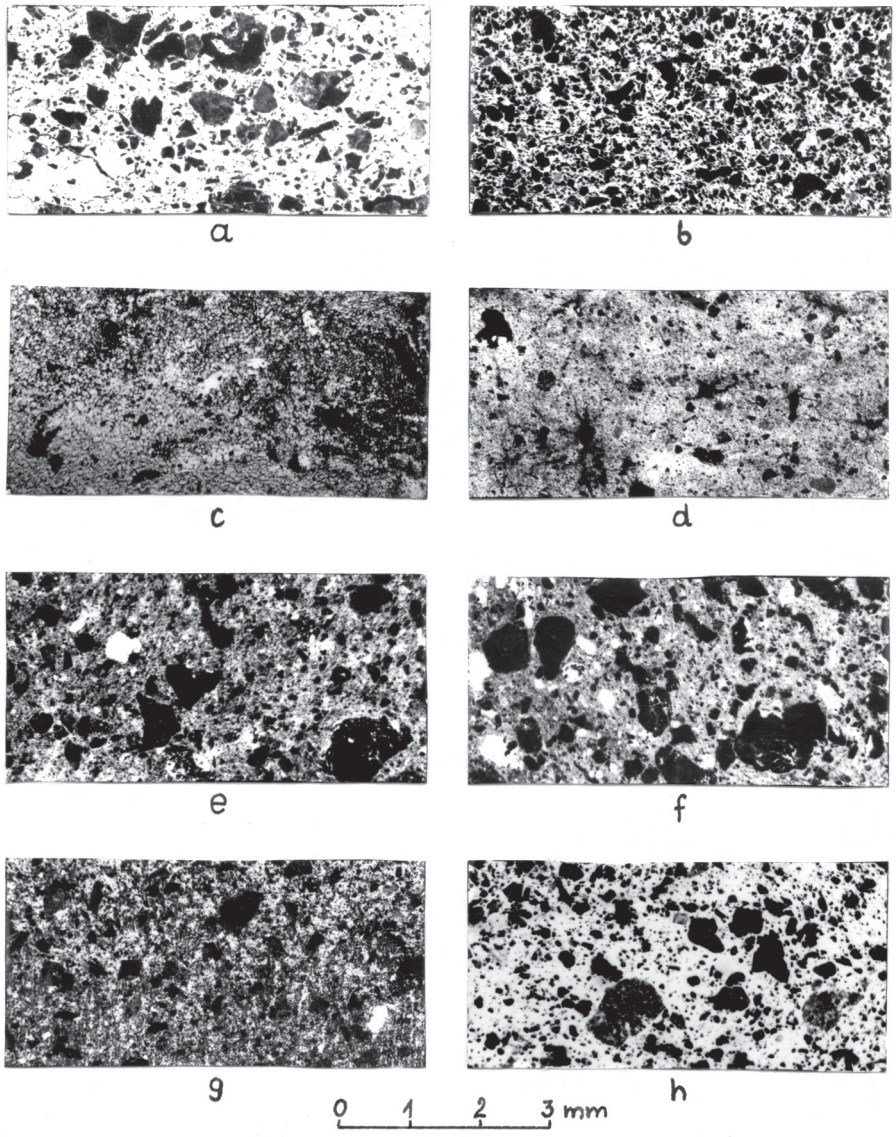

Fig. 15. The microscope photographs (unpolarized light) of microsections made from ceramics samples represented on following figures: a – fig. 1/ a; b – fig.1/ c; c – fig. 4/ f; d – fig. 4a; e – fig. 3b; f – fig. 3h; g – fig. 4o; h – fig. 4

some temper. The fragments are: a curved wall section of an unidentified vessel (from Quillahuaca) with two black straps bordered on one side with a painted red area and a fragment from Marca Marca decorated identically (Fig. 13b, c; 5f).

In the Quillahuaca site there has been found a fragment (Fig. 13o; 5h) of the vessel neck (aryballoid most probably). It was decorated with an Inca-Cuzco motive – sets

of black rhombs painted on the outside glittering red slip (Fernandez Baca 1974: motive No. 439). Both sides of the fragment were carefully polished; the ware was well fired which results in the red-orange (10 R 6/6) color of the cross-section. The paste, close to the type A, contains characteristic fine grained texture (Fig. 15g). These high qualities of work, together with the decorative pattern, indicate that the fragment is an import.

STONE ARTIFACTS

A number of stone artifacts was found in some of the above described sites. There were points, flakes, tools and grinding stones. The largest collection, i.e. 7 artifacts, was obtained from the Campana Machay site. It contained, as following:

a) flint point (Fig. 16c), laurel-leaf shaped and asymmetric in cross-section; the basal end of the point is slightly thinned; irregular flat retouch; the edges are undulated in outline and untrimmed;
b) laurel-leaf shaped flint point (Fig. 16f) made from the flake with edge flat retouch on one side whereas the other side fully retouched; traces of fire;
c) flint point (Fig. 16g), triangular in outline and lenticular in cross-section; natural thick base; full flat two-sided retouch; trimmed edges;
d) unfinished leaf-shaped point (Fig. 16d) made from a flat pebble of metamorphosed fine-grained sandstone; splintered retouch on one edge;
e) flint flake (Fig. 16h) from a single platform core with cortical striking platform; short and broad; a slightly thinned top; a flat splintered notch on one edge;
f) overpassed flake (Fig. 16b) from a single platform core of metamorphosed fine-grained sandstone; attempt of changing of orientation on the top (90° degree core); the bulb thinned by single strike; partial flat splintered retouch of the right edge;
g) flint flake (Fig. 16e) from the orientation change, transversely cracked; the platform, formed on the top of the former striking face.

Taking into consideration the thickness and the weight of the above described points (as well as the point from Quillahuaca), they seem to be utilized as the thrown weapon. Both of the flakes, however, could serve for scraping (Fig. 16h) and sawing (Fig. 16b).

The following artifacts were found in the Quillahuaca site:

a) slender leaf-shaped point (Fig. 16i) of quartzite; lenticular cross-section; lamellarly flat, full surface retouch; the base was broken off;
b) flat diorite pebble (Fig. 16a) with notches; their character suggests primary breaking and secondary smoothing, not surely intentional. It cannot be relied upon the pebble is a tool in fact. Finding it within the archaeological stratum provides, however, that the pebble could be utilized in this way or, at least, it was intentionally brought there up.

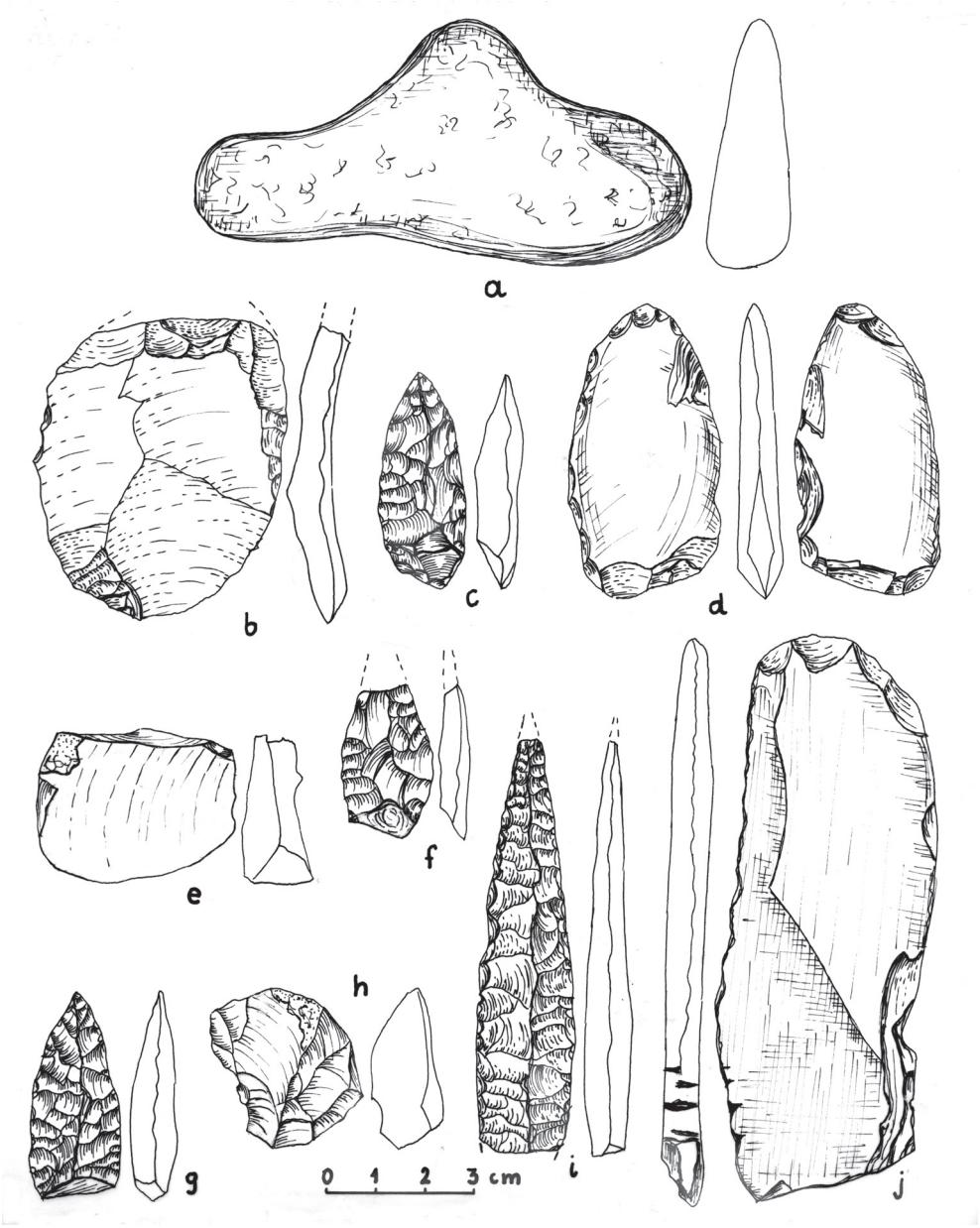

Fig. 16. Stone artifacts from the Campana Machay site (b–h), the Quillahuaca site (a, i) and the Golgue site (j)

The flat piece of sandy shale (Fig. 16j) was found in the Golgue site. It bears the traces of utilizing of splintering on the edges. Probably, it was a kind of a chopping tool. Incisions on the edges suggest that the chopper was fastened on a handle.[19]

[19] The description was made thanks the kind help and scientific advise of Prof. J.K. Kozłowski, Ph.D., Jagiellonian University, Kraków.

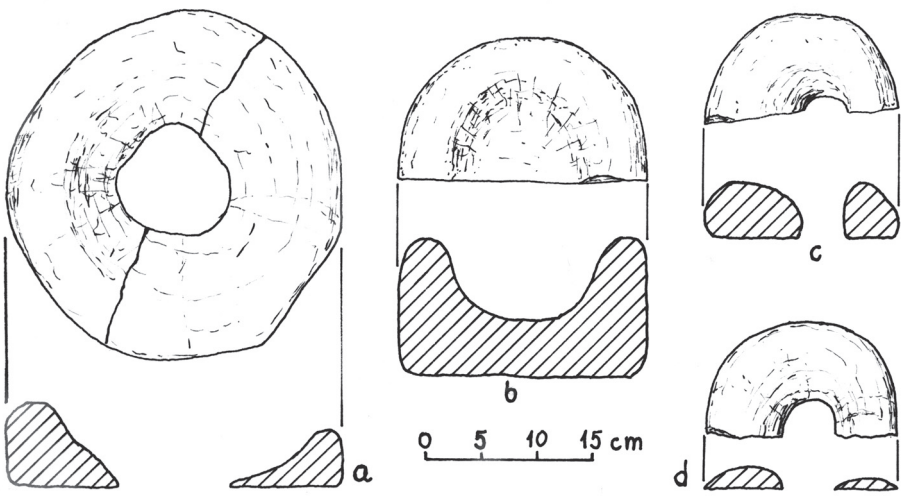

Fig. 17. The grinding stones from the Golgue site (a–c) and the Quillahuaca site (d)

Besides the above described artifacts, there was found a large amount of grinding stones (made of volcanic rocks and limestone) and grinders in Quillahuaca, Marca Marca and Huacho Sin Pescado. The grinding stones (Fig. 17) were round (15–40 cm in diameter) with a hollow in the central part. All of the found items were broken or worn into holes during utilization. Small river pebbles were used as grinders.

SUMMARY

The field investigations and the analysis of the collected material allow of stating in the Upper Huaura basin the presence of several sites representing a wide time interval from preceramic to late periods. The sites discussed in this paper come from about 4 cent. B.C. to 16 cent. A.D.

Campana Machay and Altar Machay come from the Early Horizon. As far as the decoration is concerned the ceramic material found there (set I) is almost identical with that of San Blas Impressed. Unfortunately no further relations could be pointed out as the San Blas ceramics, despite numerous publications (Nomland 1939: 611–665; Kroeber 1954: 96–97; Lumbrers 1959: 71, 106), has not been sufficiently described yet. We do not have enough detailed data on such problems as: the paste composition, the wall thickness, the mouth form and diameter and the rim shape. The drawings of the ceramics fragments that have been published do not take into

account any profile. There is even no site description.[20] The small distance, however, from San Blas to Campana Machay and Alter Machay (about 70 km) taken together with the factual decoration identity, mentioned above, and the absence of any concomitant ceramics on both sites[21] let us, I think, assume that the two sites belonged to the same tradition and consequently consider them of the same age, more or less.

Table 2. The chronological chart of the ceramics types from the Upper Huaura basin

Dates	Periods	Ceramics type	Site
1532	Late Horizon	Quillahuaca (Inca infuences)	Quillahuaca Golgue Marca Marca Huacho Sin Pescado I and II
1463	Late Intermediate Period	Quillahuaca	
900	Middle Horizon	Red-Black-on-Buff	
600 A.D.	Early Intermediate Period	?	
200 B.C.	Early Horizon	San Blas Impressed	Altar Machay Campana Machay
900			

The San Blas Impressed ceramics was known in various parts of Central Andes, among others in the Mantaro Basin (Matos 1971: 41–51) and Kotosh site in Huánuco (Izumi, Sono 1963). Unfortunately this type has not been sufficiently dated. Due to its chavinoidal character, it was first related to early periods. Then excavations in Kotosh came, relatively well dated, where the ceramics stylistically resembling that of San Blas was discovered in one of the levels (Kotosh – San Blas Phase). The majority of authors[22] put the San Blas ware at the decline of the Early Horizon. If so, the Campana Machay and Altar Machay ceramics would be of the same age (Table 2).[23]

[20] The fragments described in the publications had been collected by non-archaeologist and analyzed by people who had never been on the site. It seems that no archaeologist have been on the spot since the discovery of San Blas, i.e. since about 35 years.

[21] Two ceramics types have been found in San Blas site: San Blas Impressed and San Blas Red-on--Buff. Despite the noticeable differences Kroeber (1954*)* assumed both types of the same age. Finding in the Upper Huaura basin an isolated San Blas Impressed complex supported the suggestions of chronological separation of that type from the San Blas Red-on-Buff (Lumbreras 1959).

[22] E.g. G. R. Willey (1971: 85); L. Lumbreras (1959). The latter despite placing San Blas in the Early Intermediate Period within his chronological chart, he describes the ceramics as coming from the Early Horizon.

[23] According to many authors the Early Horizon settlements were almost always located in the river valleys or near the water springs and they had no defense system. The defense constructions appeared

It is supposed, however, that the two sites did not develop simultaneously, though the dividing time interval is very small. The prove of it lies in the interesting fact that the shape of the handles varies noticeably and that there is a slight difference in the paste composition (the paste of the Altar Machay fragments is more fine-grained – Fig. 15a, b). I think, therefore, that the Campana Machay site must be little older, as all later vessels have only strap handles.

The population of the two sites belonged to the same culture and had a well-developed local ceramic tradition. There *is* no trace of the influence of the early Chavin culture. They were very small settlements. Assuming that 5 people could live in each house the population of Campana Machay and Altar Machay did not exceed 50 and 75 persons respectively. Obviously neither every house was lived at the same time[24] nor all remains we find nowadays were dwellings. Therefore, it is safe to assume that there were only several families in each of the sites. It is noteworthy that in the beginnings of the Early Intermediate Period both Campana Machay and Altar Machay hed been abandoned and were never re-occupied since.

There are several sites in the Central Andes, besides San Blas, that developed in the early periods. They are hardly comparable, however, for various reasons to the sites investigated in the Upper Huaura basin. Lauricocha (Cardich 1958) has the typical Chavin ceramics. The Mantaro basin sites had been destroyed so thoroughly that their architecture is almost unknown. The others, such as Kichka Pata (Cruzatt 1971: 605–634) or Chuncuimarca (Ravines 1969–1970: 234–252) are known to be closely related to quite a different type of ceramics. Besides, there are pyramids, unknown in the Huaura basin.

The remaining sites under investigation, that is Quillahuaca, Marca Marca, Golgue and Huacho Sin Pescado I and II have some common traits. That is why their ages will be discussed jointly. The ceramics set (set II) attributed to those sites is another unifying feature. The several distinguished ceramics types, that had been discussed earlier, have some properties that allow us to date them fairly definitely. As it has been already mentioned we have not got any doubts about the Inca-Cuzco type fragment. In its context, the fragments of aryballoid jars with rims intensely bent outwards should be regarded as a form, of so called Provincial Inca style. They suggest that Huacho Sin Pescado and Quillahuaca must have been occupied in the Late Horizon.

The Inca culture whose extension determines the Late Horizon had little influence in the Upper Huaura basin. The Incas conquered this territory in sixties of the 15th century (it was done by Tupac Yupanqui under the kingship of Pachacuti) and ruled only 70 years i.e. till the Spaniards arrived. The presence of aryballoid vessels is the

at the decline of the Early Horizon and spread in the Early Intermediate Period. Whereas Campana Machay and Altar Machay have a distinguished location in the defensive places of the territory (which is especially noticeable in Campana Machay) and far away from rivers. Concluding, the two sites (thus simultaneously the San Blas Impressed ceramics) might be related with a bit wider time interval, i.e. at the decline of the Early Horizon and in the earliest phases of the Early Intermediate Period (IV–I B.C.?).

[24] The recent D. Lavallée's investigations (1972: 91–116) showed that – although for late periods only – one family could use several buildings (even 10). That is why the population number estimated from the number of houses should be taken with caution.

only trace of the Inca culture as it had left no trace in the architecture[25]. The existence of at least one big settlement in further supported by the chronicle of Jerez (1965: 100), describing the journey of Hernando Pizarro from Cajatambo to Jauja in 1533. Pizarro travelled along a royal road and spent one night in Oyú, a village within the mountains. The road led across the Huaura valley close to modern Oyón. Thus Oyú might be a deformed name of Oyón[26] and the Spanish route, the same road the trace of which I have found in the Pucayacu valley.[27]

Dating of the remaining ceramics types in the set II presents more difficulties and it is less certain than in the Inca case. The Red-Black-on-Buff type fragments should be most probably related to the Middle Horizon. These sherds are not enough large to reconstruct the full decorative patterns on them but their colors and painting technique as well as the characteristic paste type are all typical for that period. Besides, one of these fragments seems to be a tripod vessel leg. That kind of vessels, however, spread probably in Peru in the Middle Horizon being the influence of the Cajamarca III style from the Northern Andes. Unfortunately, as far as I know, it has not been yet determined in which phases of the Middle Horizon the tripods began to appear in the other Peruvian regions. It is supposed, however, that it could have been rather later (rise) phases than the early ones. The Huari culture of the south origin needed time to spread their influences as far as the Northern Andes. In any case, the Cajamarca type tripods are abundant in the Huari site (Bennett 1954: 201, 202; Menzel 1970: 537) of the 2B epoch (750–800 A.D.). Besides, it seems that the other two leg fragments (probably of tripod vessels), though they are unpainted and made of the local paste (type A), could be related with the Middle Horizon. Precisely, they could be local decline forms.

Thus, taking into consideration the collected ceramics, Huacho Sin Pescado, Marca Marca and Quillahuaca sites were probably occupied as early as in the Middle Horizon (Table 2) or, at least, during its later phases (2B epoch).

The Quillahuaca type is the most interesting because its presence in all of the sites. Unfortunately, its dating may be executed exclusively by comparing with other ceramic types of the Central Peru. Generally, circles impressing were the very common decorative technique in the whole Peru of the late periods. In the Central Andes it was limited, however, to the base of vessel, neck and body. Moreover, the pots were often painted what did not exist in the Huaura basin.

---

[25] This fact agrees with settled data of the adjacent Huánuco region (Thompson 1970: 576–580).

[26] The historical Oyú was located probably on the place of today Oyón. There are, however, no archaeological remains but they might have been destroyed completely by modern settlement. The information provided by Jerez that Oyú was located within the mountains, corresponds well to the present Oyón localization (on the high flat river terrace and between rivers) and would not fit any other site. Another fact to support this thesis could be the name of one of the Oyón suburbs: Tatahuaca (the suffix-*huaca* is added usually to the name when the place has been related with some ruins or served for religious purposes).

[27] According to the Jerez's chronicle the Spaniards went from Cajatambo by "a broad road" which means that it was better than the track they came from the coast. The careful construction and maintenance of the road shows the economic and strategic importance of it in the Inca state.

As far as the rim profile is concerned, there is a visible similarity between the Quillahuaca type and Patan Qoto ceramics from the Jauja – Huánuco region (Lumbreras: 1959) as well as its variant (A2) described by D. Lavallée (1967: 411–448). Both types, however, are dated for the Late Intermediate Period's decline and they have no circles on the edges. Instead, they are painted and decorated with various modeled elements.

Noticeable similarities to the Quillahuaca type, however, may be discovered not in the Andes but in the coast ceramics of Lauri Impressed and Puerto Viejo Moldeado types. The former type was distinguished by Horkheimer (1970: 372) and according to his modest description it is characterized by decorating with circles impressed on edges or necks. Moreover, an application of a face[28] is added sometimes on a neck what I have not met in the Upper Huaura basin. Lauri Impressed type occurs together with the Chancay ceramics (as a concomitant style) and, according to Horkheimer, it had appeared at the beginning of the Late Intermediate Period.

The Quillahuaca ceramics seems to be most related to the Puerto Viejo Moldeado type (from the Chilca valley) described by D. Bonavía (1962: 137–179). The paste and firing are identical and the rim profiles are similar (in some cases at least, because there are also other rim variants in the Puerto Viejo Moldeado type) as well as the decoration consists of the impressed circles exclusively. However, the Puerto Viejo Moldeado type has a number of variants of circle arrangement which led Bonavía to distinguish 6 subtypes. Generally, the Quillahuaca ceramics may be accepted as an identical type with the A and B Bonavia's subtypes. He has stated that the Puerto Viejo Moldeado type comes from the decline of the Early Horizon[29]. It seems to me, however, that the style is much younger what could be proved by the investigations in the Upper Chilca basin and the Huarochiri region. There is a ceramics identical to the Puerto Viejo Moldeado type according to a very rough description left by F. Engel (1972: 188–194). The cultural context indicates its appearance during the Late Intermediate Period and persistence till the Inca times and even after the Spanish conquest. Engel (1966: 97) has obtained the C14 date, i.e. 1550 ±100 A.D., for the one of the sites (Rupashka Wasi) which contained exclusively that ceramics.

If taking into consideration the similarities discussed before we assume that the Quillahuaca type is closely related (or even identical) to the ceramics of the Lauri Impressed, Puerto Viejo Moldeado and the Upper Chilca types, it should be dated back to the Late Intermediate Period and may be also to the Late Horizon (i.e. IX–XVI A.D.). The proposed age of Quillahuaca ceramics agrees well with the evidences present in the Huaura basin. This type appear in the investigated sites (on the surface of course) with the Middle and Late Horizons types (Red-Black-on-Buff and Inca respectively) and there is no evidences of any settlement break. Thus, the relating of the Quillahuaca type with the Late Intermediate Period fills well the gap in the ceramic sequence. Moreover, the Quillahuaca ceramics was probably contemporaneous with the Inca ones (from the Late Horizon) as the latter did not generally eliminate

[28] The available publication does not contain unfortunately this ceramics type illustration.

[29] The Puerto Viejo ceramics was collected on the surface and its dating is based on very uncertain analogies.

the older styles. It is proved by the abundance of Quillahuca fragments on the surface what suggests that they must have come from the youngest settlement layer.

In the same period we can observe the appearance of the similar ceramic types in the mountains as well as on the central peruvian coast what suggest the existence of relationship between these two regions. It is noteworthy that the discussed ceramics occurs as a concomitant type on the coast (Lauri Impressed for Chancy and Puerto Viejo Moldeado for Puerto Viejo Cara Gollete) whereas it dominates in the mountains (Upper Huaura and Upper Chilca basins) or even it could be the only type overthere. Therefore we could estimate this type ceramics origin in the regions of the Pacific slopes of Andes. It is supported further by a fact that the Lauri Impressed ware has been found in the graves with shepherd goods. Horkheimer (1970: 372) believes, that they were brought by llamas shepherds coming down to the coast to find pasture in the lomas during a dry season. It sounds, however, highly improbable regarding the scarce lomas flora and the coast climate which is unfavorable for such typical mountain animals as llamas are. On the other hand, the thesis that the Quillahuaca––like ceramics occurring on the coast is resulted by trade exchanging seems to be also unsatysfying. The import of every-day usage pottery from far away regions did not pay regarding its low value and transport difficulties. It is also less probable that the ware under discussion might be popular in such a big ceramic center as Chancay was in those times. Besides, finding it in graves proves that it was used by a certain group of people which did not apply typical Chancay ceramics being produced especially for funeral purposes. A definite solution of the problem is not possible at the moment but I would like to suggest that the mountain people presence on the coast may be explained simply enough by assuming a vertical model of economy[30]. It would mean that both Lauri and Puerto Viejo were the coastal sections of the main mountain settlements. Their population might have been supplied among others in ceramics by the main villages. They might have also produced pottery by themselves but according their own mountain stylistic patterns.

In the Upper Huaura basin there are no noticeable differences among the architectonic styles and because of it a kind of local tradition common in various periods should be assumed. One of its noteworthy features is a rectangular plan of houses. This shape of buildings had dominated in the investigated sites at least from the Middle Horizon. It is interesting, however, that dwellings of the Late Intermediate Period and of the Late Horizon are generally round in the Central Andes. Comparing roughly the architecture of the Upper Huaura basin and that of other regions, the closest similarity may be find only in the sites of the eastern slopes of Andes, especially in the Alto Marañón valley (Flornoy 1957) where, unfortunately, the ceramic context is unknown. The ruins in the adjacent Canta province (the Upper Chancay basin) des-

[30] It was the economic system (proved for the Inca times) that consisting of setting up the sections of the Andean settlements in various ecological environments best for a given type of cultivation or rich of given mineral deposits, etc. The aim was to achieve the maximum supply of goods by the main village. The settlement sections were located sometimes far away and settled by the population of the main village on the rotation principle (Murra 1972).

pite some general features in common, differ basically in their masonry and a number of architectonic details[31].

The buildings erected in several investigated sites (especially in Huacho Sin Pescado I and II) have many features in common with the Middle Horizon architecture. The closest similarity can be found in the wall construction and in such details as: corners, door frames, window arrangement in rows, etc. Another unifying feature is building of many-story houses. They served probably as stores rather than dwellings. It is proved by low story height (1.0–1.2 m) and the construction of windows which serve as means of ventilation in big magazines. A large number, of those kind buildings in Huacho Sin Pescado I and II suggest that dwellers stored quite great amounts of food. All of that similarities are easily noticed when comparing is made with smaller sites (Isbell 1971) of the Middle Horizon because big centers of Huari culture are characterized by carefully former planning of the whole settlement unit. In contrary neither Huacho Sin Pescado nor any of the other sites had been built or enlarged according to some scheme. This is proved by the irregularity of building arrangement. The houses were erected probably succesionaly, in places they were actually needed (for instance following the population growth)[32].

Because the absence of temples or any ceremonial buildings in the investigated sites we can deduce nothing about the religion of the Upper Huaura basin population. There are, however, evidences of the strong and developed burial customs. Its main feature seems to be necessity to keep close relation with dead persons. This supposition is supported by following facts: graves are not situated in special cemeteries but within the settlements; every investigated tomb has its own doorway. Obeying the latter constructional rule required obviously some additional efforts which are especially noticeable in the case of at-house graves. Although a largement was successive and unplanned and a number of tombs ranged a relatively great amount, the every tomb could be reached from the outside. The guarance of the easy access to burials was purposeful and a very "functional" principle of the grave. The idea, most probably, was either to leave sometimes offerings to dead or to carry mummies out on various religious occasions which had been frequently practiced in pre-Columbian Peru.

The variety of grave types within every settlement is noteworthy. In the Quillahuaca site there are represented, for instance, all 5 types known in the investigated region. It is difficult to select the typical burial kind for a certain period. However, it

[31] Although there are a great number of ruins of quite big cemetery-settlements and they are situated in areas of natural defensive character, the round or rectangular towers are the main buildings. Besides, each building was constructed according to a previously set up plan taking into account the both functional purposes: to be a grave and a dwelling simultaneously. The tombs were situated in several levels beneath the floor or the special niches were constructed within the thick walls. The tower roofs were stone and supported frequently with pillars. There were trapezoid-shaped doors and sometimes small jutties inside the towers (Villar Córdova 1935).

[32] It seems, however, that there might have been some general trends (hard to prove in present state of investigations) to situate a certain type of buildings in a given part of the settlement. A group of corrals in the Golgue site may be an example.

could be supposed that the cave burial was the only grave type in the Upper Huaura basin of the early periods.

The strong attachment to the dead (burials within the settlements and easy access to the grave niches) together with the variety of grave types is rather seldom in Peru. The only general similarities may be found with the cemetery-settlements in the Canta province (Villar Córdova 1935). A comparative analysis provides, however, that although the religious purposes were the same in both cases but the architectonic traditions differed evidently. Some relations could be discovered in the Middle Horizon settlements[33]. Burials were found there also among dwellings but the custom seemed to be less common than in the Huaura or Canta basins.

It has been suggested that hurrying within houses was not popular in the Central Andes. Due to the investigations in the Canta province, Huancayo (Matos 1972: 378) and Huánuco regions and actually in the Upper Huaura basin as well as according to the early colonial chronicles (for example Cieza de León 1965: 351–354), the discussed burial custom was much more common that had been thought. It could be at least observed in the directly adjacent to the main ridge of the Central Andes, i.e. between the Huaura and Cañete valleys.

The field investigations and the careful analysis of the collected material allowed to give a sketch of the cultural chronology in the Upper Huaura basin and to make some general statements. The region is of much interest for the number and the size of the registrated sites and for the time interval they represent. An explanation of some additional problems that turn up in the discussion of field investigations requires more detailed surveys, especially excavations.

References cited

BENNETT, Wendell C.
1954 Excavaciones en Wari, Ayacucho, Perú, *Revista del Museo Nacional*, vol. XXIII, Lima.
BONAVÍA, Duccio
1962 Cerámica de Puerto Viejo (Chilca), [in:] *Actas y trabajos del II Congreso Nacional de Historia del Perú,* vol. I, Lima.
CARDICH, Augusto
1958 *Los Yacimientos de Lauricocha*, Buenos Aires.
CIEZA DE LEÓN, Pedro
1965 [1553] La Crónica del Perú, [in:] *Crónicas de la conquista del Perú*, Mexico.
CRUZATT, Augusto
1971 Horizonte Temprano en el valle de Ayacucho, [in:] *Anales científicos de la Universidad del Centro del Perú*, vol. I, Huancayo.

[33] W. Isbell (1971: 94) found an interesting grave in Jargampata. It resembles very much the at-house type from Huaura.

ENGEL, Fréderic
1966 *Geografía humana prehistórica y agricultura precolombina de la Quebrada de Chilca*, Lima.
1972 *Le monde précolombien des Andes*, Paris.
FERNANDEZ BACA, Jenaro
1974 *Motivos de ornamentación de la cerámica Inca-Cuzco*, vol. I, Lima.
FLORNOY, Bertrand
1957 Exploration arquéologique de l'Alto Marañón, [in:] *Travaux de l'Institut Français d'Etudes Andines*, vol. V, Paris–Lima.
GARCÍA ROSELL, Cesar
1968 *Diccionario Arqueológico del Perú*, Lima.
HORKHEIMER, Hans
1970 Chancay Prehispánico: Diversidad y Belleza, [in:] R. Ravines (ed.), *100 años de la arqueología en el Perú*, Lima.
ISBELL, William
1971 Un pueblo rural ayacuchano durante el Imperio Huari, *Revista del Museo Nacional*, vol. XXXVII, Lima.
IZUMI, Seiichi; SONO, Toshihiko
1963 *Andes 2. Excavations at Kotosh, Perú, 1960*, Tokyo.
JEREZ, Francisco de
1965 [1534] Conquista del Perú y Provincia del Cuzco, [in:] *Crónicas de la conquista del Perú*, Mexico.
KROEBER, Alfred L.
1954 Peruvian Archaeology in 1942, *Viking Found Publications in Anthropology*, No. 4.
LAVALLÉE, Danièle
1967 Types céramiques des Andes Centrales du Pérou, *Journal de la Société des Américanistes*, vol. LVI-2.
1972 Estructura y organización del habitat en los Andes centrales durante el Periodo Intermedio Tardío, *Revista del Museo Nacional*, vol. XXXIX.
LINNÉ, Sigvald
1925 *The Technique of South American Ceramics*, Goteborg.
LUMBRERAS, Luis
1959 Esquema Arqueológico de la Sierra Central del Perú, *Revista del Museo Nacional*, vol. XXVIII.
MATOS, Ramiro
1971 El periodo formativo en el valle del Mantaro, *Revista del Museo Nacional*, XXXVII.
1972 Wakan y Wamalli. Estudio arqueológico de dos aldeas rurales, [in:] I. Ortiz de Zuñiga, *Visita de la Provincia de León de Huánuco en 1562*, Huánuco.
MENZEL, Dorothy
1970 La cultura Huari, [in:] R. Ravines (ed.), *100 años de la arqueología en el Perú*, Lima.
MURRA, John
1972 El "control vertical" de un máximo de pisos ecológicos en la economía de los sociedades andinas, [in:] I. Ortiz de Zuñiga, *Visita de la Provincia de León de Huánuco en 1562*, Huánuco.
NOMLAND, Gladys
1939 New Archaeological Site at San Blas, Junín, Peru, *Revista del Museo Nacional*, vol. VIII, Lima.

RAIMONDI, Antonio
1945 *Notas de viajes para su obra El Perú*, vol. III, Lima.
RAVINES, Rogger
1969–1970 El sitio arqueológico de Chuncuimarca, Huancavelica, *Revista del Museo Nacional*, vol. XXXV.
SAN MARTÍN, M.
1970 *Documentales turísticos. Churín*, Lima.
SHEPARD, Anna
1974 *Ceramics for the Archaeologist*, Washington.
THOMPSON, Donald
1970 Una evaluación arqueológica de las evidencias etnohistóricas sobre la cultura Incaica, [in:] R. Ravines (ed.), *100 años de la arqueología en el Perú*, Lima.
TICKELL, F.G.
1965 *The Technique of Sedimentary Mineralogy*, Amsterdam–London–New York.
VILLAR CÓRDOVA, Pedro E.
1935 *Arqueología del Departamento de Lima*, Lima.
WILLEY, Gordon R.
1971 *An Introduction to American Archaeology*, vol. II, New Jersey.